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CARDIOLOGY

Advances in Coronary Disease

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Part 3 (Final)

(Continued from April issue)

Anticoagulants

The most important advance of the past few years in the treatment of myocardial infarction has followed the introduction of the clinical use of the anticoagulants. One of the best co-ordinated and controlled studies ever undertaken in medicine was carried out for two years throughout the United States under the guidance of a committee formed by the American Heart Association³⁸. They found the mortality in dicoumaril treated cases was reduced by one-third, due to the almost total elimination of thrombo-embolic complications. The use of the anti-coagulants introduces a calculated added risk to the patient in the form of possible haemorrhage. The risk is insignificant providing the drugs are used with adequate precautions—otherwise they are dangerous. Proper conditions of use require first that careful control of prothrombin estimations be carried out by a reliable laboratory. The optimum concentration to be aimed at should be a prothrombin time of 2½-3 times the normal control,—equal to about 20-25% of normal activity. Reports given in seconds should not be confused with percentage. If the prothrombin time is prolonged three times from 14 seconds to 42 seconds, the prothrombin activity is not 33% but 21%. The writer has seen this error made in a hospital laboratory.

Urinalysis should be done frequently for evidence of haematuria. Caution in or avoidance of the use of the drug is indicated if there is a history of a possible bleeding lesion such as a peptic ulcer or evidence of advanced renal or hepatic disease. Minor operative procedures should be avoided. For example a thoracocentesis may result in a fatal haemothorax. Deep intramuscular injections with large needles may cause haematomas if prothrombin time is much prolonged.

Haemorrhage occurring during treatment with heparin is not usually serious as the clotting time rapidly returns to normal when the drug is discontinued. It is rarely necessary to use transfusions or the heparin antidotes, protamine or toluidine blue. If haemorrhage occurs during dicoumaril therapy we are faced with a more serious problem. It may take a number of days for the prothrombin time to return to normal

after the drug is discontinued. Repeated transfusions may be necessary during this period. The value of Vitamin K as the specific antidote to dicoumaril has been the subject of controversy. Millar et al³⁹ stated that ordinary Vitamin K solutions (e.g. menadoine and synkavite) were useless, but found that an oily preparation, Vitamin K₁ (Mercks) was effective when given intravenously in a dose of 1000 mgms. Their claims were supported by James⁴⁰ and others, but not accepted entirely by Shapiro et al⁴¹. Overman, Sorenson and Wright⁴² are the latest to enter the discussion. Their conclusions were that if the prothrombin time was excessive watery solutions given intravenously in doses of 72 mgms., and repeated once if necessary, were effective in bringing the prothrombin activity back to a therapeutic range. However, where it was desired to completely neutralize the effect of dicoumaril, as in severe haemorrhage, the watery solutions were inadequate and large doses of the oily Vitamin K₁ were indicated.

Theoretically, the action of dicoumaril is due to the fact that it possesses a chemical structure similar to Vitamin K. When dicoumaril is administered in adequate dosage it will therefore displace Vitamin K and thus block the chemical reaction producing prothrombin. It would contrariwise be expected that if given in adequate dosage, Vitamin K would be able to compete successfully with dicoumaril for its rightful place and thus allow prothrombin synthesis. Riggs⁴³ has offered an explanation for the partial failure of Vitamin K to accomplish this. He states that dicoumaril has two actions. In addition to interfering with prothrombin synthesis it also impairs a protein accelerator of prothrombin conversion to thrombin, which latter action is not influenced by Vitamin K.

Because of the slow excretion of dicoumaril, with consequent danger in case of haemorrhage, studies are proceeding of related compounds in a search for a quicker acting agent. Heparin, of course, is a fast acting and safe anti-coagulant. It is, however, expensive and has to be given parenterally. While excellent, therefore, for short periods or as initial treatment, it is not generally used for therapy of more than a few days duration.

Phenylindonedione (Danilone) is a more recent preparation for which advantages are claimed. Some of the experimental work was done by Dr. Jaques⁴⁴ of the University of Saskatchewan. It is stated that full effects are obtained in 24 hours instead of 48 hours, and that recovery takes place

in 2 days instead of 4-7 days, as with dicoumaril. The initial average dose is 150 mgms., and the average maintenance dose, 50 mgms. While he has found it as satisfactory as dicoumaril, the writer has on several occasion noted rather slow recovery of the prothrombin time when the drug was discontinued, so it is evident that rapid elimination does not always occur.

A new drug of considerable promise is **Tromexan**, for which rapid effects are claimed and which appears safer than dicoumaril. At the time of writing this drug was not available for general use in Canada.

Apart from established myocardial infarction anti-coagulants may be of value in other circumstances. Many physicians feel that they are valuable when used prophylactically where infarction appears to be impending; the attack may be averted in some cases altogether while a mild attack may result in others. Nicol⁴⁶ reported on 41 patients who had symptoms of increasing anginal pains. Past experience has been that such symptoms in a great majority of cases were premonitory of infarction. In his series only two patients developed a full blown transmural infarction. Twenty-four had mild symptoms and minor electrocardiographic changes while the other fifteen improved without evidence of cardiac damage. Without dicoumaril one would have expected a much larger number would have had severe infarctions.

Because the initial attack of angina is due to a change in coronary circulation which may be actually a small infarction (or indicative of impending infarction), many authorities advise that if the patient is seen soon after the onset of symptoms, bed rest and anti-coagulant therapy for two weeks are indicated.

Studies in the long term use of anti-coagulants are in progress. Their value in prophylaxis of recurring emboli in auricular fibrillation appears established. Whether anti-coagulants will be of value in long term prevention of coronary occlusion is still under investigation.

Coronary Dilators

Only the rapidly acting nitrates—nitroglycerine and amyl nitrite—have been unquestionably effective clinically in the treatment of angina pectoris. The longer acting nitrates, aminophyllin, and papaverin, have been shown to be effective in animal experiments as coronary dilators, but their value has been hard to assess clinically. It is extremely difficult to evaluate the action of drugs on a condition so variable and subject to so many environmental and psychic influences as angina pectoris. Any form of treatment used with enthusiasm by the physician will bring reports of improvement in many cases. Investigations which do not include adequate controls are of dubious value. In controlled studies patients

should be treated alternately with the drug and with identical appearing placebos. The physician prescribing should preferably not himself be aware which medication is being used. Some recent studies have utilized the Master Step Test as an aid in the objective evaluation of the effects of a proposed remedy.

A drug which seems to have more promise than those hitherto available was first studied in Egypt by Anrep and associates. This is a crystalline substance called khellin or visammin (trade names—eskell, khellevis). Its source is the seeds of a plant, "ammi visnaga," which grows in the eastern Mediterranean area. In heart-lung preparations, its coronary vasodilator action is four times that of aminophyllin. As a result of Anrep's enthusiastic reports⁴⁷ and a number of controlled studies⁴⁸⁻⁵¹ have been carried out in England and America with general agreement that about two-thirds of patients with angina may expect benefit, when compared with the effect of placebo treatment. A dissenting opinion has been that of Greiner and Gold⁵², who saw no benefit in a controlled study. Scott⁵³ and his associates believe that the dosage used by Greiner and Gold was not adequate. They feel that a minimum of three, and at times six, 40 milligram tablets per day are required to produce an initial effect. Because there is some cumulative action dosage can later be decreased. Unfortunately a large percentage of patients cannot tolerate these doses because of anorexia, nausea, or dizziness. The concomitant administration of aluminum hydroxide helps to reduce the incidence of gastric disturbance in some cases. Occasionally tolerance can be developed by starting with one tablet daily and increasing by one tablet per day. The side effects at present constitute a considerable drawback to the usefulness of the drug.

Since Heberden's first description of angina pectoris in 1786, alcohol has been esteemed as second only to nitrates as an effective agent in the treatment and prevention of anginal attacks.

Because in animal experiments alcohol has not been shown to be a coronary dilator, Russek et al⁵⁴ undertook a study of the effects of alcohol on the anginal pain and on the electrocardiographic changes following effort. They selected patients with angina who developed pain and typical electrocardiographic alterations following a routine Master Step Test. When nitroglycerine was administered to these patients before the test both pain and the electrocardiographic changes were inhibited. The same test was then tried following the administration of alcohol. Pain was effectively prevented, but the electrocardiographic findings of coronary insufficiency appeared just as in the control tracings. The authors concluded that alcohol acts not on the coronary circulation, but on the central nervous system, raising the thresh-

hold to pain. They caution that the use of alcohol, by eliminating the warning signal of pain without altering the myocardial effects, might lead to continued effort rather than the immobility which the warning pain engenders, and thus may be potentially harmful. Further studies would appear indicated to determine if alcohol is the desirable agent which it has appeared to be in angina.

Tobacco

Just as alcohol has always been considered beneficial in coronary disease, so has tobacco been deemed harmful. In susceptible individuals the pulse rate and blood pressure are elevated by smoking, and electrocardiographic changes indicative of coronary insufficiency have been recorded during the act of smoking. Dr. Stroud used to say he permitted his patients to puff a cigar providing the antidote in the form of a cocktail was poised ready in the other hand.

Many physicians, however, felt that the use or prohibition of tobacco was an individual problem. Some people find it soothing and relaxing, and are nervous and jittery if denied their pipe or cigarette. The writer recently attended a patient critically ill following an extensive myocardial infarction with accompanying acute left ventricular failure. He was extremely apprehensive and restless, and kept pleading for "a smoke." Finally he was allowed a few puffs at intervals, during which the oxygen which was being administered by nasal catheter was shut off. After each "smoke" he was much calmer. This patient undoubtedly progressed more favourably than had his requests been refused.

"Tobacco angina" is so rare that individual small series of cases are considered worth reporting. On the other hand, Bryant and Wood⁵⁵ found that in some cases of coronary disease anoxic changes appeared on the ECG during smoking although the patient had no history of pain caused by smoking.

Dr. Robert Levy⁵⁶, of Columbia University, made careful studies in an endeavour to find a simple way of determining which patients may safely smoke in the presence of coronary disease. He decided that individuals whose cardiovascular system was sensitive to tobacco could easily be identified by the simple test of smoking one cigarette and checking the pulse rate before and after. An increase of 25 in the pulse rate per minute was an index of hypersensitivity to tobacco. He felt that all others could smoke in moderation in the presence of coronary disease. He prohibits it completely only during acute heart failure or following an acute infarction because even slight changes in the cardiac work caused by tobacco would be undesirable at these times.

Antithyroid Measures

In 1933, Blumgart and Levine advocated total thyroidectomy as a treatment for circulatory failure and intractable angina. Some good results were reported, but little is now heard of the operation—being a drastic procedure to perform in poor risk patients when good results were uncertain.

The advent of the antithyroid drugs offered a method of suppressing thyroid function by safe medical means. Hollander and Mandelbaum⁵⁷ and Ben Asher⁵⁸ have reported favourable results in treatment of angina, but review of their articles is not convincing. Very little change in the metabolic rate of their patients developed. It would appear to be difficult to secure a marked lowering of metabolism in euthyroid patients with the dosage used, which was not over 200 mgms. of propyl thiouracil daily. Ben Asher had previously reported a series of patients treated with thiouracil who had an average fall of 24 in their B.M.R. and in whom there was a high percentage of relief from angina.

Frisk and Lindgren⁵⁹ treated ten patients with angina using 400-500 mgms. of methyl thiouracil daily. It took 6-8 months before an "effective" reduction (to about minus 15) occurred in the B.M.R. They noted improvement in 9 out of 10 patients.

An investigation of considerable interest using radioactive iodine in an attempt to produce a "medical thyroidectomy" was recently reported by Blumgart and associates^{60, 61}. They selected 17 patients with intractable angina of long duration unresponsive to other forms of medical therapy. Myxedema was produced in all cases by radioactive iodine. All patients had striking relief of their angina at the myxedema level. The symptoms of myxedema were now controlled by small doses of thyroid, and relief of hypothyroid discomfort was obtained at levels of minus 15 to 25. While eleven of the seventeen patients maintained their improvement at the new metabolic level, in the other six angina recurred and was relieved only when myxedema was allowed to return. These latter patients had to choose between myxedema and angina.

This method of treatment at the present time appears to offer an alternative to surgical forms of treatment in poor risk patients, since no mortality is involved and the results can be controlled by thyroid medication.

Surgical Measures

Attempts to relieve intractable angina pectoris by surgical means have, apart from thyroidectomy, been directed either at attempts to improve the blood supply of the heart, or to interrupt pain pathways to the central nervous system.

Revascularization of the heart has been attempted by **omentum or pectoral muscle grafts** or by **instilling talc** into the pericardial cavity in order to produce adhesions. Thompson⁶² reported favourable results by the last method, but doubts have been expressed that the anastomotic vessels formed are functionally significant. More recently, attempts to increase the blood supply to the heart have involved surgery directly on cardiac vessels, either by ligation of the coronary sinus or by anastomosis between it and an extra-cardiac artery. These measures so far appear to carry a considerable mortality.

Neurosurgical intervention was first attempted by Jonnesco who removed the middle cervical and stellate ganglia. Lerche and Fontaine later performed a series of stellate ganglionectomies with about 50% success.

Anatomical and experimental investigations have shown that afferent pain fibres from the heart pass through the second, third and fourth dorsal sympathetic ganglia as well as the stellate. Recent surgical efforts have therefore been extended to include these pathways.

Alcohol injection of the sympathetic ganglia has been carried out by a number of surgeons. White and Bland⁶³ reported 75 cases. They claimed improvement in 84%. There was, however, a fairly high incidence of post-operative neuralgia and of recurrences in this group.

Section of the dorsal roots is a hazardous operation and in some cases the anaesthesia resulting is more uncomfortable than the angina.

Lindgren and Olivecrona^{64, 65} of Sweden, in the past year reported on 105 patients operated on by **cervico-thoracic ganglionectomy**. The operative mortality was 7.5% (due mainly to unrecognized acute infarction). Pain was relieved in 63%, but in 11% the good results were nullified by cardiac failure or traumatic neuritis. 29% were outright failures. The authors state that the operation is contraindicated if there is cardiac failure or enlargement plus an electrocardiogram indicating "diffuse and localized" damage. The short life expectancy of these patients (under two years) did not warrant their submission to surgery.

On the whole the results of neuro surgical treatment remain unpredictable. One-half to two-thirds may be markedly benefitted, and a third will be total failures. The operation should certainly be reserved for patients for whom life is intolerable without relief from medical means, and who are suitable for operation (by Lindgren's rating).

Prognosis

The diagnosis of angina pectoris is an alarming one, conjuring up thoughts to the patient of a short existence with the imminent threat of sudden death. This anxiety itself adds to the

gloomy prognosis, since acute fear may produce coronary insufficiency as readily as excess physical effort. Consequently if it were possible for the physician to hold out a more cheerful prognosis it should serve to lengthen as well as make more pleasant the life of the victim of angina.

It is therefore encouraging to see reports that longevity is possible, and in fact not unusual in patients with angina pectoris. Follow up studies by Parker, Dry, Montgomery and others^{66, 67} of the Mayo Clinic indicate that a death rate of about 10% per year may be expected from the time of onset of symptoms. Five years after the beginning of angina, two-thirds were still alive, at ten years 40%, at 15 years 25%, and they estimated that one in six or seven would survive 20 years. Certain facts observed at the first examination were helpful in assessing prognosis. It was better to be of the female sex. Hypertension and a history of infarction or cardiac failure were unfavourable omens. A normal cardiograph at the time of examination was encouraging. The presence of more than minimal (grade 1) changes in the fundi was definitely bad—none of the patients presenting marked retinal changes survive for long periods.

Most encouraging was the finding that angina occasionally disappeared altogether. Sometimes this followed an infarction, but at other times seemed to be due to the successful development of a collateral circulation. Dr. Dry⁶⁸ believes that barring accidents angina per se has a tendency to improve by the development of collateral circulation, and he therefore is not enthusiastic about drastic surgical attempts to relieve angina.

The development of an infarct at once changes the prognosis. The immediate outlook at a first infarction is good—the death rate being only about 10%. Subsequent episodes, however, carry a high mortality.

Following the first infarction (with its 10% immediate mortality) a further 25% survive less than a year. However one-fourth of the total do survive for 5 years or longer.

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MEDICINE

Sudden Death in a Case of Cirrhosis of the Liver

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In the practice of modern medicine the establishment of a correct diagnosis is one of paramount importance. The similarity of symptom-complexes of widely diverse disease processes has encouraged the practice of repeated exercises in differential diagnosis, and innumerable laboratory procedures have been established to pin-point the diagnosis.

When one is confronted clinically with an outspoken disease-entity, when diagnosis seems to be adequately confirmed by laboratory procedures, and, particularly, when specific therapy ameliorates the condition, it is disconcerting to have the pathologist report that no organic basis can be found for it and that, indeed, an entirely different pathological entity exists.

It is on account of having found myself in such an embarrassing situation that this case is being reported.

Case Report

Miss E. W., a 58-year-old spinster, was first admitted to the Regina Grey Nuns Hospital on May 23, 1947. Her history briefly, was that of recurring attacks of bronchial asthma since 1930. She had frequent remissions lasting two to three months and frequent exacerbations to the point of "status asthmaticus." She was taught to administer her own adrenalin for these attacks. Skin sensitivity tests done in 1935 showed positivity to certain foods, horse-hair, dog-hair, feathers, and orris-root. In 1942 she was treated with autohemotherapy with no improvement. She noticed increasing exertional dyspnoea and developed a chronic cough with expectoration. In 1942, five years prior to this admission, she first became aware that her skin was becoming pigmented, mostly on the face, hands, creases of the palms and over the lower limbs. She experienced periods of exhaustion and her weight gradually fell off to 120

pounds—a loss of at least 20 pounds from the previous year.

At about the same time she began having periodic bouts of diarrhoea with eight to ten stools per day—lasting two to three days. There was never any gross blood in the stools. Her pigmentation was darker during these periods.

An examination at the Sanatorium at Fort Qu'Appelle showed bilateral healed pulmonary tuberculosis. The gastro-intestinal X-ray series was reported as normal.

The reason for the present investigation was her concern over the deepening pigmentation of the skin and her diarrhoea, together with progressive weight loss.

The functional enquiry revealed complaints of respiratory distress mostly on expiration. There was never any chest pain and never haemoptysis. She experienced occasional palpitation with mild exertion. There was no complaint of oedema of the ankles or legs. The appetite was only fair, with a distinct craving for salt, and diarrhoea was bothersome. Recently she was experiencing some nausea and vomiting after meals. She complained of being thirsty most of the time but had no frequency or nocturia. She slept poorly due to her dyspnoea and often sat up in bed at night.

Examination

Her weight on hospital admission was 94 pounds. She was darkly pigmented, and masculine in appearance with a hirsute facies, especially chin and upper lip. There was considerable dark pigmentation of the hands especially of the palmar creases. There was no pigmentation of the buccal mucous membranes. The sclerae were white. The pupils were equal and reacted to light and accommodation. There was no cervical adenopathy, and no palpable thyroid. She wore dentures.

The chest movements were somewhat restricted and numerous inspiratory and expiratory rhonchi were audible on auscultation over both lung fields. The heart was normal in size, regular in rate and rhythm with no valvular murmurs. The blood

pressure was 90/60. The abdominal examination showed no palpable viscera or masses and no areas of rigidity.

In view of the clinical history, and the suggestion of healed tuberculosis, numerous laboratory tests and X-ray films were done to determine the cause of her pigmentation and asthenia. The most probable diagnosis suggesting itself with progressive symptoms of this nature was Addison's disease. The following X-ray and laboratory data helped to confirm this diagnosis.

A single A.P. of the chest showed old calcification within both hilar shadows. Linear fibrosis extended up from both hilae to the extreme apices. In addition fibrotic change was seen in the second left anterior space. The radiologist's report was as follows: "There appears to be fibrotic tuberculous change in both upper lung fields." X-ray films of the renal and supra-renal areas failed to reveal any calcification in either organs.

Serum sodium estimation on May 27, 1941, showed 276.68 mgms. of sodium per 100 mls. serum. The serum potassium was 22.8 mgms. per 100 c.c. of serum. A Keppler-Power water test showed a value of 17. (Over 25 rules out Addison's disease in the absence of kidney disease). The blood serum Wassermann was negative. The red blood count showed a haemoglobin of 15.84 grams, R.B.C.'s 5,080,000, Hb content good, W.B.C.'s 5,200, Poly's 56 per cent, Eosinophils 8 per cent (the patient had asthma), lymphocytes 27 per cent. A micro-urinalysis was negative. Serum proteins were 7.5 grams per cent with normal division. A total 17 Keto-steroid estimation showed 2.4 mgms. in a twenty-four hour urine specimen, quantitative serum bilirubin .6 mgms. per cent. The glucose tolerance curve was slightly flattened with the one and one-half hour reading at 140 mgms. per cent.

A skin biopsy showed excessive melanin in the basal layers of the skin and a negative Prussian blue reaction for haemosiderin.

From the clinical and laboratory findings one was forced to accept a diagnosis of Addison's disease and therapy was carried out on this premise. The patient was put on 12 grams of salt (in tablet form) per day. A daily dose of desoxycorticosterone acetate of 5 mgms. was given intramuscularly. She was put on a high carbohydrate and protein diet. Her condition improved greatly within six days of the onset of therapy, the pigmentation lessened and whitish areas could be seen on the face, particularly on the forehead. Her appetite improved and her nausea disappeared. The estimated dosage for desoxycorticosterone pellet implantation arrived at was 3 mgms. per day. Accordingly 500 mgms. (5 pellets of 100 mgms. each) was implanted with a Kerns implanter under the spine of the right scapula. The patient was advised to juggle her salt dosage, if oedema appeared in the extremities. She gained seven

pounds in two weeks and felt well at the time of discharge. Her asthma was greatly improved and her blood pressure rose to 140/90.

She remained well until November 2, 1947, when she was re-admitted due to a severe attack of asthma. The findings on this admission did not indicate any deterioration. Her blood pressure was 130/80. There had been no diarrhoea. The laboratory tests showed normal serum sodium and potassium. She was discharged after a week. Her general health remained fairly good and pellets were re-implanted in February, 1948, not quite one year from the initial implantation. These improved her condition again, and re-implantation at nine-month intervals were carried out until 1949. During this period she carried on a useful but restricted life as a seamstress.

On the morning of February 26, 1950, she suddenly expired without complaints of any kind.

Autopsy Report

External Examination—The body is that of an emaciated adult female subject. There is very prominent brownish pigmentation of the whole skin surface which is dry and scaly in areas. The upper lip and chin shows mild hirsuties and the facial appearance is of masculine type. Bodily configuration and distribution of pubic hair is of feminine type. Axillary hair is present.

Internal Examination

Thoracic Cavity—Left lung 364 grams, right lung 364 grams. Lungs are well aerated showing no abnormality.

Heart—350 grams. There is no cardiac abnormality.

Abdominal Cavity—Periumbilical veins are dilated and the abdominal cavity contains approximately two pints of fluid blood with much fresh clot across the omentum. There is one large dilated varix on the thoracic aspect of left dome of diaphragm. Gastrointestinal tract and pancreas are normal.

Liver—1146 grams. The liver is small and of yellowish green color. Its surface is finely granular and on section the organ is very hard. Normal architecture is no longer visible, and there appear to be a few minute areas of normal islets left among an otherwise apparently atrophic or fibrosed parenchyma. In appearance it suggests a previous hepatic necrosis without consequent regeneration, rather than a true multilobular cirrhosis.

Spleen—469 grams. The splenic pulp is soft, and of uniform pale buff red appearance with many visible, but not prominent malpighian corpuscles.

Adrenals—Left 5 grams, right 5 grams. Both adrenals appear to be small, but neither shows any evidence of disease.

Kidneys—Left 126 grams, right 121 grams. There is no renal abnormality.

Pelvic Contents—The uterus and ovaries are atrophic with one small subserous uterine fibroid on the anterior surface. The left ovary is of irregular shape with a large hard irregular swelling situated on the upper surface. The right ovary is of normal size although of somewhat peculiar cellular appearance.

Brain—1493 grams. There is no intracerebral abnormality.

Histology

Liver shows a typical multilobular cirrhosis with numerous bile thrombi in hepatic cells adjacent to cirrhotic process. There is no excessive iron pigmentation in the liver.

The splenic pulp is fibrosed with lymphatic follicles small and reduced in number.

Both adrenal glands show no histological abnormality.

In skin there is prominent pigmentation of basal layer of epidermis. Numerous large melanin containing phagocytes are present in dermis and upper subcutaneous tissues. There is no iron pigmentation.

Spleen and pancreas show no iron deposition.

Anatomical Diagnosis

1. Intra-abdominal haemorrhage.
2. Dilated periumbilical varices.
3. Multilobular hepatic cirrhosis.
4. Generalized pigmentation of unknown aetiology.

Summary

Confronted with the above pathological report

one is taken aback. This patient did not die in any of the conventional ways of a cirrhotic. The silent intra-peritoneal haemorrhage from a varicose periumbilical vein is indeed rare. She did not show any of the signs of hepatic failure. The pigmentation of liver failure is usually described as muddy and icterus may be present.

It is well known that cirrhosis of the liver may exist at autopsy as an incidental finding or in association with other organic disease in an occult form. Electrolyte balance is usually not disturbed except in liver decompensation, mainly in those cases associated with ascites, where large quantities of sodium are held in the ascitic fluid at the expense of serum sodium.

How can one account for the signs of adrenal insufficiency in the presence of adequate adrenal tissue? Could this be due to exhaustion from the prolonged "stress" of bronchial asthma? These cases should respond only to the glucocorticoids of the adrenal cortex, while this patient obtained great benefit from desoxycorticosterone, a mineralo-corticoid.

The only conclusion one can draw is expressed in a statement once made by Dr. Alexander Gibson, "that the greatest asset of the medical mind is the recognition of its own limitless ignorance."

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The Canadian Red Cross Blood Transfusion Service

February, 1951

| Name of Hospital: | Total Patients | Total Bottles Transfused | Total Used |
|------------------------------------|----------------|--------------------------|------------|
| Winnipeg General | 240 | 417 | 298½ |
| St. Boniface | 183 | | |
| Misericordia | 73 | 112 | |
| Grace | 99 | 137 | |
| Deer Lodge | 42 | 75 | |
| Children's | 24 | 15 | |
| Victoria | 28 | 40 | |
| St. Joseph's | 33 | 54 | |
| Concordia | 24 | 45 | |
| Municipal Hospitals | 1 | 2 | |
| Selkirk General | 24 | 31 | |
| Shriners' Hospital | 1 | 1 | |
| Brandon General | 32 | 35 | |
| Portage la Prairie | 10 | 10 | |
| McKellar Hospital, Fort William | 37 | 40 | |
| General Hospital, Port Arthur | 42 | 50 | |
| St. Joseph's Hospital, Port Arthur | 49 | 55 | |
| Others | 37 | 48 | |
| Totals. | 979 | 1,465½ | |

Comments

I would like to bring the attention of my colleagues to the fact that the Red Cross has recently become the official agency for the supply of blood and blood products to the Canadian Armed Forces. Initially the commitment is for providing a stockpile of 10,000 bottles of dried plasma during 1951. In addition, we have obviously to provide a stockpile for possible civil defence needs. The whole programme involves collecting 100,000 donations during the year, in addition to the 200,000 which is needed for civilian hospital needs.

This is a very heavy programme and I would ask physicians and surgeons to do all in their power to recruit blood donors for the service, either by directly influencing patients and their relatives or by taking part in any community drive, especially in country points, aimed at the recruitment of donors.

Cecil Harris, B.Sc., M.D., M.R.C.P.,
Provincial Medical Director.

UROLOGY

Selective Prostatic Surgery

Melville J. Swartz, M.D.
Mall Medical Group, Winnipeg, Man.

The first quarter of the twentieth century witnessed lengthy, wordy and windy battles between the protagonists of the suprapubic and perineal routes of prostatectomy. The second quarter added the transurethral resection procedure, and now in the third quarter, we have a new approach known as the retropubic prostatectomy.

The proponents of these different methods of treating prostatic obstruction have for years maintained their belligerent fronts, and at intervals have written articles bristling with intolerance. Recently some of these men have revealed a change of attitude, and one of the country's leading endoscopic surgeons admits that he has no quarrel with the surgeon who finds it the best procedure to care for 85% of enlarged prostates by transurethral resection, and 15% by open operation. This opening wedge for more tolerance and good sense on this rather controversial subject is due to the acquisition of a broadening of the perspective, a greater ability to evaluate the situation, and a better sense of judgment regarding the surgery of the prostate. In every doctor's practice there will be from 15% to 25% of the cases presenting themselves as prostatic obstruction, who would be better off treated by the operation which best suits the needs of this particular patient, rather than by the operation in which the surgeon is more adept.

There is a definite need for all the recognized operative procedures for relief of prostatic obstruction, and the ideal operation must secure a complete removal, not only of all existing obstruction, but of all potentially obstructing tissue with the minimal mortality, the lowest morbidity, the easiest convalescence, and a rapid return to normal health and urinary function. In this way alone can the greatest good be administered to the greatest number.

Some urologists have been slow to master the transurethral operation; on the other hand, a number of over-enthusiastic surgeons have applied it to all patients suffering from prostatism. Both prostatectomy and transurethral resection will produce satisfactory results when properly and intelligently applied. Transurethral resection, the more benign procedure, can be applied to the earlier cases, and in skilled hands is unquestionably followed by a lower mortality than prostatectomy. But prostatectomy is by no means an obsolete operation, and is definitely indicated in patients suffering from the larger types of hypertrophy of the prostate. In these cases, prostatectomy is more likely to give lasting relief. There

are certain indications for resection, and certain ones for the different types of prostatectomy, and it is not difficult to determine the particular operation which is most likely to give lasting results in every type of prostatic obstruction.

At the present time one can quite accurately choose the particular type of operation for a given case suffering from prostatism. The critical indications for transurethral resection and prostatectomy have been fairly well defined. True enough, there are certain border line and early cases presenting moderate hypertrophy to which either type of operation can be applied, in which we feel that one exercises better judgment by first employing the more benign procedure of resection.

The cases in which resection is suitable and in which experience has shown that one can hope to obtain more or less permanent relief from prostatism are in all cases of obstruction due to fibroses of the gland, contracture of the bladder neck, prostatic calculosis, median bars, and moderate hypertrophy of the prostate in cases in which the calibre of the urethra is at least twenty-eight French and in whom there is no suspicion of cancer. It is invaluable in all cases of advanced cancer of the prostate, and in poor operative risks, (including those whose glands may be very large, but would be safer under repeated minimal resections than if done by the conservative perineal or retropubic methods); and lastly for palliative treatment of advanced prostatic malignancy.

Suprapubic prostatectomy can be considered the procedure of choice when benign hypertrophy of the prostate is associated with bladder pathology such as tumor, a large calculus or diverticulum, and also in cases of marked renal insufficiency, when a two-stage prostatectomy may be necessary.

Perineal prostatectomy should be considered in those cases in which cancer is not suspected, but which are judged to be from fair to poor risks, but in whom some contraindication to transurethral resection is indicated. Such cases would be those with advanced cardiovascular renal disease and hypertension, and a small calibre anterior urethra, which would make resection difficult unless an external urethrotomy was done.

The radical perineal and retropubic prostatectomy can be done in all cases of early carcinoma in whom a worth while percentage of cures may be expected by removal of the entire gland including the capsule.

The most recent method advanced for prostatectomy, by the retropubic approach, is preferable in most cases of large adenomatous

prostates that can be removed in one stage, and when the patient's general condition does not warrant a traumatizing operation. It is also very useful when a shorter period of hospitalization is of importance to the patient's health, and when maintenance of sexual function is of great importance.

The object of this paper is to point out to the reader that there are definite and important indications for the employment of each of the known methods of operation for relief of prostatic obstruction. It is time to dispel the myth which prevails in many parts of the world that all cases of prostatic obstruction can and should be handled

in the same manner. The need for a choice of operation to fit each individual patient is what should be considered, not the operation to fit the surgeon. The urologist of the future, doing prostatic surgery, will have to have training that will fit him to do a suprapubic, retropubic, perineal, and transurethral operation equally well; so that his judgment of which operation is indicated in each individual case will not be hampered by the fact that he has had special training only in doing perineal operations, or that he is a general surgeon and only trained to do suprapubic operations, or by the fact that his intensive training in surgery has made him an expert resectionist only.

CASE HISTORIES—SURGICAL

Incarcerated Inguinal Hernia

Herniotomy

S. S. Peikoff, M.D., F.R.C.S. (Ed.),
F.R.C.S. (C.), F.A.C.S.

This is the fourteenth of a series of Case Histories which will appear in the Review each month. The purpose of these publications is not to present rare or unusual cases but rather to consider the routine management of common surgical cases.

Case No. 47-15,484. Mr. D. B., St. Boniface Hospital. Color, white. Age, 63. Occupation, Office Manager. Date of admission, December 16, 1947. Date of operation, December 16, 1947. Date of discharge, December 23, 1947.

Complaint on Admission

1. Lump in left groin, since December, 1946.
2. Pain in left groin, 6 hours.

Present Illness

In December, 1946, when lifting a heavy weight from the floor, the patient experienced a sudden ache in the left groin and then noticed a swelling developing in that region. This swelling has gradually increased in size and has descended into his scrotum. The swelling disappears when he lies down and he usually has no difficulty reducing it.

About 10 a.m. on December 16, 1947, the patient fell down in his office and developed a sudden severe pain in the left groin. He broke out in a sweat and felt faint. He noticed that the lump in his groin did not disappear when he lay down, and that he could not push it back. The patient had not had a bowel movement for the previous 1½ days.

Inventory by Systems

Eyes—Vision good. Wears lenses for reading.
Ears—Hears well. No tinnitus or vertigo.

Respiratory—Infrequent colds and sore throats. No chest pain, cough, expectoration, hemoptysis or dyspnoea.

Cardio-vascular—No history of rheumatic fever or syphilis. No substernal pain, palpitation, dyspnoea on exertion or dependent oedema.

Gastro-intestinal—Appetite good. No dyspepsia or gas belching. Bowels tend to be constipated, unless he uses a laxative. No blood in stools.

Genito-urinary—No frequency. Occasional nocturia (1 x). No difficulty starting stream. No hematuria. No dribbling.

Nervous System—Not nervous or irritable. Sleeps well. Never has a headache.

Metabolic—No recent loss of weight. No heat or cold intolerance.

Past History

Bell's Palsy, 1911. No other illnesses, operations or accidents.

Family History

Father—Died at 76 years of age, cerebral haemorrhage.

Mother—Died at 84 years of age, pneumonia.

One brother—Age 56 years; alive and well. Had an operation for cancer of bowel in 1945.

One sister—Age 67 years; alive; has "hardening of arteries."

Two sons—Ages 27 and 19 years; alive and well.

Physical Examination

General—A middle-aged white male who appears to be in good general health, lying quietly in bed and complaining of a gnawing pain in his left groin.

Head and Neck:

Cranial nerves—Has some loss of function of muscles innervated by the right 7th nerve. This includes a slight ptosis of the right eyelid and slight drooping of the right side of the mouth and asymmetry of the mouth when he smiles. Other cranial nerves intact.

Eyes—Ptosis of right lid as stated. Conjunctivae and cornea normal. Pupils equal, react to light and accommodation. Ocular fundi, slight narrowing of retinal arterioles.

Ears—Canals and drums normal.
 Nose—No obstruction.
 Lips, gums, tongue—Clear.
 Teeth—Has only a few remaining teeth.
 Throat—Clear; tonsils small.
 Neck—No lymphadenopathy. No distended veins. Thyroid not palpable.

Chest:

Heart—Apex beat not visible or palpable. No thrills or murmurs. Rhythm regular; rate 92 per minute. Blood pressure 175/110.

Lungs—Contour of chest normal. Movements equal and symmetrical. Tactile fremitus good. No dullness. Breath sounds normal; no adventitious sounds.

Abdomen—Obese; contour symmetrical. No tenderness, guarding or rigidity. Liver and spleen not palpable. No masses. Intestinal sounds normal. Reflexes present and equal.

Genitalia—Has large, tense, tender swelling the size of a grapefruit extending from left inguinal canal into left side of scrotum. There is no impulse on cough. Gentle attempts at taxis will not reduce the swelling. The swelling does not transilluminate. The right inguinal region, scrotum and testicle are normal.

Extremities:

Upper—No deformity or wasting. No clubbing of fingers. Radial pulse good.

| | Right | Left |
|-----------|-------|------|
| Biceps | † | † |
| Triceps | † | † |
| Supinator | † | † |

Lower—No deformity or wasting. No varicities. No oedema. Pulsations in dorsalis pedis and post-tibial vessels good.

| | Right | Left |
|---------|-------|------|
| Knee | † | † |
| Ankle | † | † |
| Plantar | V | V |

Clinical Laboratory

Urinalysis—Urine turbid, straw, acid. Specific gravity, 1.026. Albumin, 0. Sugar, 0. Microscopic, 0.

Blood Count—Red blood cells, 4,650,000. Hemoglobin, 90%. White cells, 9,400. Differential Leucocytes, Polymorphonuclear Neutrophiles, 68%, small and large Lymphocytes, 32%.

Pre-operative Diagnosis

Incarcerated left indirect inguinal hernia.

Indications for Operation

A hernia, associated with pain and tenderness over the sac, which is not reducible after gentle attempts at taxis, is an indication for immediate operation and repair.

Pre-operative Care

The patient was given 1000 cc. of 5% glucose in normal saline intravenously and prepared for immediate operation.

No special measures were deemed necessary since the patient was in good general health.

Detailed Description of Operative Technique and of Operative Findings

Position—Supine. Skin of abdomen, perineum and upper parts of thighs painted with merthiolate.

Draped Incision—An incision about 5 inches long was made in the long axis of the swelling, beginning at a point just above the internal ring coursing downwards and inwards over the spine of the pubis. Skin, Campers and Scarpa's fascia incised up to External Oblique Aponeurosis. Superficial veins ligated with chromic catgut 000. Skin towels applied.

The External Oblique Aponeurosis was now divided over the swelling and extended medially to completely sever the external ring. The two leaves of the aponeurosis were freed in an upward and downward direction by finger gauze dissection, at the same time avoiding injury to the subjacent ilio-inguinal nerve. The cremaster muscle and fascia were incised over the swelling and the hernial sac exposed and identified. This was gently separated from the cord and incised with release of considerable sero-sanguinous fluid. The sac was opened widely and the inside of the sac and bowel irrigated with normal saline.

About 8 inches of plum-colored small bowel was found trapped in the hernial sac. There were no adhesions between the sac and the bowel. The loop of bowel was wrapped in a moist hot sponge. The index finger of the right hand was introduced into the sac and the constriction at the internal ring gently stretched so that a further 6 to 8 inches of normal bowel was paid out of the abdomen and the effects of the constriction on the wall examined. The constriction ring was nicked with scalpel and scissors in an upward direction (to avoid injury to the Inferior Epigastric vessels and the ring enlarged).

The impacted loop of bowel was re-examined. The loop of small bowel was dilated and somewhat oedematous, but pulsations were good, and color and lustre gradually returned to normal. There were no areas of necrosis at the site of constriction or at the apex of the incarcerated loop. The entire loop was gradually reduced into the abdomen by gentle compression with hot moist sponges.

The edges of the thick sac were now seized with mosquito forceps and the entire hernial sac was freed from the cord by blunt and sharp dissection to well beyond the constricting ring. All small bleeders were ligated with chromic catgut 00. The neck of the sac was transfixed, ligated and divided, and the proximal stump oversewn with chromic catgut No. 1.

Repair of Hernial Floor

The weak Transversalis fascia was incised medially to expose Cooper's Lig. along the superior ramus of the pubic bone. Several interrupted mattress sutures of chromic catgut No. 11 were now inserted between the conjoint tendon and Cooper's ligament. A strip of fascia was dissected off from the upper leaf of the external oblique aponeurosis, about $\frac{3}{8}$'s inch wide, beginning at its outermost point and left anchored at its pubic attachment. This was used as a fascial suture to unite the conjoint tendon to the recurved portion of the External Oblique aponeurosis and ending at internal ring where it is designed to form a medial buttress, and at this point the end of the fascial suture was anchored to the fascia of the internal oblique muscle. Several interrupted reinforcing sutures of chromic catgut 1 were then inserted along this line.

The two leaves of the external oblique aponeurosis were sutured over the spermatic cord with continuous chromic catgut 1 and at the medial end the external ring was narrowed comfortably around the cord. The skin was closed with interrupted silkworm sutures. Gauze dressings and elastoplast applied. Scrotal suspensory fitted.

Anæsthetic

Pre-medication—Morphine gr. $\frac{1}{4}$ with atropine gr. 1/150.

Condition of patient — Temperature, 98.2°F. Pulse, 96. Respirations, 20. Blood pressure, 175/110.

Agents—Pentothal, 10 ccs. Cyclopropane and oxygen. Curare, 2 ccs.

Gross and Microscopic Description of Tissues Removed

No specimen.

Final Diagnosis:

Strangulated indirect inguinal hernia.

Progress Notes Including Post-operative Care During Stay in Hospital

Post-operative condition of patient was uneventful. Temperature rose to 104°F. on the second day, and subsided normally.

December 18, 1947—Up and about.

December 23, 1947—Stitches removed. Patient discharged from hospital.

Condition on Discharge

Excellent. No complaints. Wound well healed. No swelling of the testicle.

Follow-up Notes Since Leaving Hospital

February 15, 1948—Patient has no complaints. No pain. Advised to return to work.

May, 1948—Carrying on a normal life. No complaints.

Medico-Literary

J. C. Hossack, M.D., C.M. (Man.)

Surgery Without Anæsthesia

Next day, my master, the surgeon, examined Ailie. There was no doubt it must kill her, and soon. It could be removed—it might never return—it would give her speedy relief—she should have it done. She curtsied, looked at James, and said: "When?" "Tomorrow," said the kind surgeon—a man of few words. She and James and Rab and I retired. I noticed that he and she spoke little, but seemed to anticipate everything in each other. The following day, at noon, the students came in, hurrying up the great stair. At the first landing-place, on a small well-known black board, was a bit of paper fastened by wafers, and many remains of old wafers beside it. On the paper were the words, "An operation today.—J. B., Clerk."

Up ran the youths, eager to secure good places: in they crowded, full of interest and talk. "What's the case?" "Which side is it?"

Don't think them heartless; they are neither better nor worse than you or I: they get over their professional horrors, and into their proper work; and in them pity, as an emotion, ending in itself or at best in tears and a long-drawn breath, lessens

—while pity, as a motive, is quickened, and gains power and purpose. It is well for poor human nature that it is so.

The operating theatre is crowded; much talk and fun, and all the cordiality and stir of youth. The surgeon with his staff of assistants is there. In comes Ailie; one look at her quiets and abates the eager students. That beautiful old woman is too much for them; they sit down, and are dumb, and gaze at her. These rough boys feel the power of her presence. She walks in quickly, but without haste; dressed in her mutch, her neckerchief, her white dimity short-gown, her black bombazeen petticoat, showing her white worsted stockings and her carpet shoes. Behind her was James with Rab. James sat down in the distance, and took that huge and noble head between his knees. Rab looked perplexed and dangerous; for ever cocking his ear and dropping it as fast.

Ailie stepped up on a seat, and laid herself on the table, as her friend the surgeon told her; arranged herself, gave a rapid look at James, shut her eyes, rested herself on me, and took my hand. The operation was at once begun; it was neces-

sarily slow; and chloroform—one of God's best gifts to his suffering children—was then unknown. The surgeon did his work. The pale face showed its pain, but was still and silent. Rab's soul was working within him; he saw that something strange was going on—blood flowing from his mistress, and she suffering; his ragged ear was up, and importunate; he growled and gave now and then a sharp impatient yelp; he would have liked to have done something to that man. But James had him firm, and gave him a glower from time to time, and an intimation of a possible kick; all the better for James, it kept his eye and mind off Ailie.

It is over: she is dressed, steps gently and decently down from the table, looks for James; then turning to the surgeon and the students, she curtseys—and in a low, clear voice, begs their pardon if she has behaved ill. The students—all of us—wept like children; the surgeon hopped her up carefully—and, resting on James and me, Ailie went to her room, Rab following. We put her to bed. James took off his heavy shoes, crammed with tackets, heel-capt and toe-capt, and put them carefully under the table, saying, "Maister John, I'm for nane o'yer stryne nurse bodies for Ailie. I'll be her nurse, and I'll gang aboot on my stockin' soles as canny as pussy." And so he did; and handy and clever, and swift and tender as any woman, was that hornyhanded, snell, peremptory little man. Everything she got he gave her: he seldom slept; and often I saw him small shrewd eyes out of the darkness, fixed on her. As before, they spoke little.

For some days Ailie did well. The wound healed "by the first intention"; for as James said, "Oor Ailie's skins over clean to beil." The students came in quiet and anxious, and surrounded her bed. She said she liked to see their young, honest faces. The surgeon dressed her, and spoke to her in his own short kind way, pitying her through his eyes, Rab and James outside the circle—Rab being now reconciled, and even cordial, and having made up his mind that as yet nobody required worrying but, as you may suppose, *semper paratus*.

So far well: but, four days after the operation my patient had a sudden and long shivering, a "goosin'," as she called it. I saw her soon after; her eyes were too bright, her cheeks colored; she was restless, and ashamed of being so; the balance was lost; mischief had begun. On looking at the wound, a blush of red told the secret; her pulse was rapid, her breathing anxious and quick, she wasn't herself, as she said, and was vexed at her restlessness. We tried what we could. James did everything, was everywhere; never in the way, never out of it; Rab subsided under the table into a dark place, and was motionless, all but his eye, which followed every one. Ailie got worse; began to wander in her mind, gently; was more demonstrative in her ways to James, rapid in her ques-

tions, and sharp at times. He was vexed, and said, "She was never that way afore, no, never." For a time she knew her head was wrong, and was always asking our pardon—the dear gentle old woman: then delirium set in strong, without pause. Her brain gave way, and then came that terrible spectre.

The intellectual power, through words and things,

Went sounding on, a dim and perilous way; she sang bits of old songs and Psalms, stopping suddenly, mingling the Psalms of David, and the diviner words of his Son and Lord, with homely odds and ends and scraps of ballads.

Nothing more touching, or in a sense more strangely beautiful, did I ever witness. Her tremulous, rapid, affectionate, eager, Scotch voice—the swift, aimless, bewildered mind, the baffled utterance, the bright and perilous eye; some wild words, some household cares, something for James, the names of the dead, Rab called rapidly and in a "fremynt" voice, and he starting up, surprised, and slinking off as if he were to blame somehow, or had been dreaming he heard. Many eager questions and beseechings which James and I could make nothing of, and on which she seemed to set her all, and then sink back ununderstood. It was very sad, but better than many things that are not called sad. James hovered about, put out and miserable, but active and exact as ever; read to her, when there was a lull, short bits from the Psalms, prose and metre, chanting the latter in his own rude and serious way, showing great knowledge of the fit words, bearing up like a man, and doating over her as his "ain Ailie." "Ailie, ma woman!" "Ma ain bonnie wee dawtie!"

The end was drawing on: the golden bowl was breaking; the silver cord was fast being loosed—that animala, blandula, vagula, hospes, comesque, was about to flee. The body and the soul—companions for sixty years—were being sundered, and taking leave. She was walking, alone, through the valley of that shadow, into which one day we must all enter—and yet she was not alone, for we know whose rod and staff were comforting her.

One night she had fallen quiet, and as we hoped asleep; her eyes were shut. We put down the gas, and sat watching her. Suddenly she sat up in bed, and taking a bed-gown which was lying on it rolled up, she held it eagerly to her breast—to the right side. We could see her eyes bright with a surprising tenderness and joy, bending over this bundle of clothes. She held it as a woman holds her sucking child; opening out her night-gown impatiently, and holding it close, and brooding over it, and murmuring foolish little words, as over one whom his mother comforteth, and who sucks and is satisfied. It was pitiful and strange to see her wasted dying look, keen and yet vague—her immense love.

"Preserve me!" groaned James, giving way. And then she rocked back and forward, as if to make it sleep, hushing it, and wasting on it her infinite fondness. "Wae's me, doctor; I declare she's thinkin' it's that bairn." "What bairn?" "The only bairn we ever had; our wee Mysie, and she's in the Kingdom forty years and mair." It was plainly true: the pain in the breast, telling its urgent story to a bewildered, ruined brain, was misread and mistaken; it suggested to her the uneasiness of a breast full of milk, and then the child; and so again once more they were together, and she had her ain wee Mysie in her bosom.

This was the close. She sank rapidly: the delirium left her; but, as she whispered, she was "clean silly"; it was the lightening before the final darkness. After having for some time lain still—her eyes shut, she said, "James!" He came close

to her, and lifting up her calm, clear, beautiful eyes, she gave him a long look, turned to me kindly but shortly, looked for Rab but could not see him, then turned to her husband again, as if she would never leave off looking, shut her eyes and composed herself. She lay for some time breathing quick, and passed away so gently, that when we thought she was gone, James in his old-fashioned way, held the mirror to her face. After a long pause, one small spot of dimness was breathed out; it vanished away, and never returned, leaving the blank clear darkness without a stain. "What is our life? it is even a vapour, which appeareth for a little time, and then vanisheth away."

"Rab and his Friends,"
Dr. John Brown.

Book Reviews

I read Dr. Leonard H. Biskind's book, "Having Your Baby," with a great deal of enjoyment. Here is a book which gives a tremendous amount of information to the expectant mother in a simple and sensible manner. There are no words such as cancer or tumor to frighten her, nor are there dire threats stated or implied if she fails to follow the doctor's advice. Such accidents of pregnancy as toxemia or bleeding are explained in understandable layman's language. If perhaps one disagrees with some of ideas in prenatal care, such as routine x-rays or rectal examinations in the last month, or the stress placed on vitamine intake, then these are of a very minor nature. His remarks on Natural Childbirth and Painless Childbirth are very well made and should dispel many of the erroneous ideas in the public mind placed there by Women's magazine reporters. The Glossary is an excellent one and the definitions are more than adequate. May I suggest that not only patients but doctors would do very well to read this book. The latter will find in it a fund of information and will be very much better able to answer many of their patient's questions.

"Having Your Baby," by Leonard H. Biskind, M.D., Random House Book Co., Toronto.

R. L.

Orthopedic Surgery, by Walter Mercer, is a comprehensive well written and well illustrated volume of 1,016 pages.

The need for a good text book on this subject is evidenced by the frequent requests of students and practitioners to suggest a book that will meet their needs. This is a volume that meets these needs.

The author points out in his preface that the book is written from the point of view of a general surgeon and such it is in fact. This should make it the choice of men doing general surgery. It deals in sufficient detail with the various orthopedic conditions, their diagnosis, differential diagnosis and treatment. It contains the essence of older practice and a summary of new methods. It is conservative in its outlook and the methods of treatment advised are those which have stood the test of time.

The bibliography is limited and the references are chiefly to authoritative articles, but the book is a reliable and useful guide to those faced with orthopedic conditions.

Orthopedic Surgery, by Walter Mercer, M.B., Ch.B., F.R.C.S. (Edin.), F.R.S. (Edin.), Professor of Orthopaedic Surgery, University of Edinburgh; Director of Orthopaedic Services to the South-Eastern Regional Hospital Board, Scotland. With a foreword by Sir John Fraser, Bart., K.C.V.O., M.C., F.R.C. Ed., F.R.C.S. Ed. M.D., Ch.M., F.R.A.C.S., F.A.C.S. Regius Professor of Clinical Surgery in the University of Edinburgh. Fourth Edition. Macmillan Co. of Canada. Price \$9.50.

Errata

In Dr. Joseph M. Jones' article, "Arterial Lesions of the Extremities," published in the March Review, there appeared two typographical errors. Page 150, first paragraph, line 9, should read: aneurysms, instead of aneurysm. Page 152, first paragraph, line 7, should read major, not minor.



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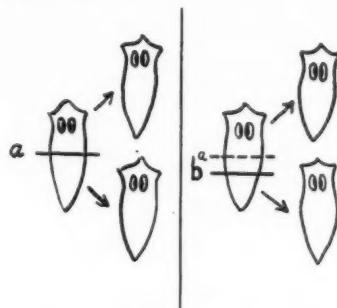
This Number of The Manitoba Medical Review
is Dedicated to the Graduands of the
Faculty of Medicine, University of Manitoba



Embryology Seminar — Axial Gradients

Myrtle Siegrist, '55

If we take a simple animal such as *Planaria* and cut it transversely, normally the front piece will form a tail at its hind end, and the hind piece will form a head at its front end. But if, instead of cutting in the middle line, we cut further back next time, we find that those cells which previously belonged to the hind piece and proliferated to form a head, now belong to the front piece and form a tail. Therefore the structure that is formed cannot be due to any specific localized material or substance, for if so, how could either a head or a tail be formed from the same identical tissue? What then does determine the quality of the structure to be formed?



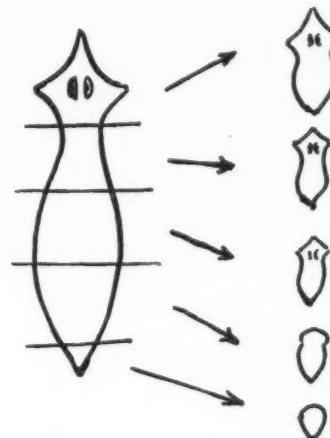
The answer to this question is found by further experiment. If the *Planaria* is cut into a number of transverse pieces, it is found that the capacity for re-generation decreases from the anterior to the posterior end. It is seen that any piece of such animal usually retains the same polarity it had while in the whole animal, that is, the regenerated head grows out of the cut end of the piece which faced the anterior end of the whole animal, and the regenerated tail grows out of the cut end which faced the posterior.

In these cases the cut pieces must contain a portion of the general gradient system of the whole animal, which when cut has become an isolated system in which the factors determining polarity are still graded from apical to basal end.

Another generalization might be drawn from this experiment. The capacity for regeneration

appears greatest near the anterior end and decreases towards the posterior; this is easily seen because anterior pieces regenerate faster and form bigger and more normal heads than pieces from posterior regions. There is a gradual change in these respects along the antero-posterior axis—a differential of some sort between the different levels.

From these experiments Huxley and De Beer postulate their first rule as regards gradient systems.

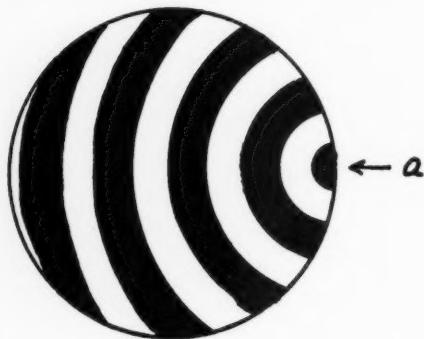


1. Where complete regeneration is possible from a fragment of the body, the type of regenerate produced is normally controlled in relation to the polarity of the fragment.

2. The second general rule is that the origin of polarity is to be sought in external factors. Either the polarity of the regenerating fragment is taken over from that of the whole organism, which is derived from the embryo, which in turn is due to the factors external to the egg; or the regenerating fragment acquires a new polarity under the influence of the external agencies acting upon it after its isolation.

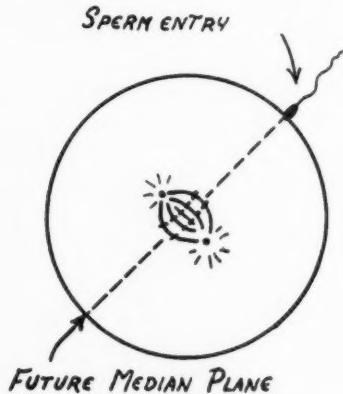
Taking the first case, polarity in the animal determined originally by factors external to the egg. The egg is a spherical mass of living protoplasm, which is morphologically and physiologically homogeneous. Such a mass possesses no axis,

is undifferentiated, and is not a physiological individual. Now let us suppose some external factor, a stimulus, which increases metabolic rate, were to act on this mass in the region "a" of its surface. The first result of such action is an increase in the rate of metabolic reactions in the region "a", and this is followed by a spreading or irradiation of a dynamic change, either over the surface or through the mass, from the region "a."



This change is fundamentally a transmission, not a transportation, for it consists in the passage of a certain energetic change and not in the bodily transportation of a substance.

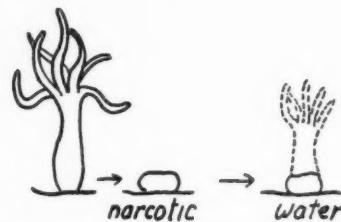
The original determination of the egg-axis therefore is due to the development of a physiological gradient within the oocyte (which can be seen in the graded distribution of cytoplasm and yolk) and this appears to have been brought about by factors in the ovary which are external to the egg itself.



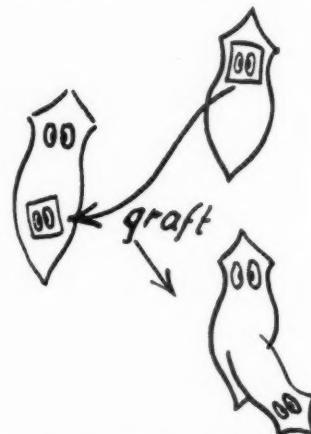
The acquisition of bilateral symmetry is the next step. The localization of the future median plane of the organism has been shown to depend upon the point of entry of the sperm (page 37, Huxley & De Beer).

On the other hand, as mentioned above, the regenerating fragment may acquire a new polarity

under the influence of external agencies acting upon it after isolation. It is possible to abolish the original gradient system and substitute another for it. This can be done for example with pieces of the stem of the hydroid *Corymorpha*, by placing them in dilute solutions of various narcotics. (Diagram page 143, Child). In normal salt water the piece of stem retains its polarity and regenerates a polyp at its distal end, but in a narcotic solution it dedifferentiates and loses its form. Replacement in clean water will lead to the regeneration of a polyp not, however, from either of its original ends, but from the central portion of the piece, which is the farthest from the glass bottom of the vehicle and most freely exposed to water and oxygen. In this case the original polarity has been obliterated and a wholly new polarity induced.



Reversal of polarity has also been obtained by appropriate methods of grafting, for example, in *Planaria*. (Diagram p. 126—Buchsbaum).



3. Our third general rule is that in regeneration the apical region or head is the first formed, and that its formation, once initiated, is an autonomous process, independent of the level of the cut, also independent of the formation of other regions, whether in the regenerated material or within the old tissues of the piece.

In *Planarians* the autonomous apical region is the head. In all cases, what is determined in the

first instance is the formation of an extreme apical region of a certain standard size this varying with the size of the piece and external conditions. Once this extreme apical region is determined, the region next more basal is determined and so on until all available material is used up. This process may be initiated at one or both ends of the piece.

Pieces from the posterior portion of an individual may give rise to headless forms. (Page 103, Child). These headless forms produce all parts of the body basal to the level which they represent, but never give rise to any part characteristic of more apical levels. If, however, a head of any sort, even a rudimentary one with no eyes, arises, then the regions adjoining the head will give rise to parts representing all levels.

In other words, the development of parts apical to the original level of the piece takes place only in relation to the development of a new apical end, while the development of parts basal to the original level is determined by the piece itself, even in the absence of a head.

The extent of the field dominated by the apical field can be experimentally modified. Narcotics reduce the size of the regenerated head in pieces of *Planaria*; and the size of the reconstituted pharynx and its distance from the anterior cut surface is then a function of the size and degree of differentiation of the head (page 139, Child).

4. Our fourth rule is that once an apical region is produced, it then exerts an influence on other organs and regions within the old tissues of the fragment. This influence is, however, limited in extent. Accordingly, the apical region has been called by Child the "Dominant region." In terms of the field-concept, the apical region establishes a field of a certain extent which it dominates so as to control the morphogenetic processes of the other regions of the field.

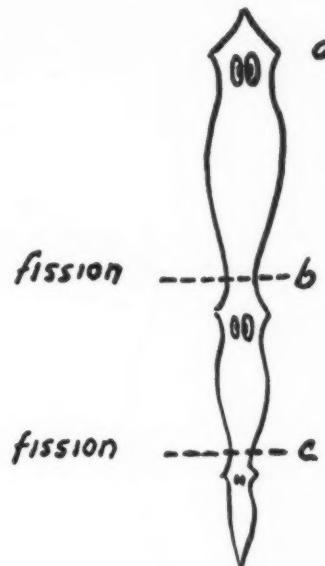
This fourth rule is really a special case of a more general 5th rule, which is that within a given field, the differentiation of all regions, other than an apical region, is dependent on the influences which proceed from a more apical level. For instance, a piece of *Planaria* can regenerate a tail posteriorly even if it fails to regenerate a head. Similarly, whereas a piece of Planarian from the postpharyngeal region will not form a new pharynx unless a head is regenerated, a piece from the prepharyngeal region is capable of producing a pharynx even in the absence of a head.

6. The sixth rule is, that one at least of the influences exerted by the more apical regions on the lower level regions is that of inhibition. There appears to be inhibition of general activity and also of differentiation.

Inhibition of general activity can be demonstrated by the susceptibility experiments. Fig. 130, p. 275, Huxley and De Beer). For example, if an

oligochaete is placed in a poisonous solution of sufficient concentration it will die, but not all parts at the same time. Death in these low forms occurs in a regular progression, beginning at the anterior end and extending gradually backward. This is explained by assuming that the parts with the highest metabolic rate are affected first, and most severely, while the less active parts are more slowly affected.

7. The seventh rule concerns the origin of new apical regions as a result of what Child calls "Physiological Isolation." If a portion of tissue comes to lie outside the field dominated by the existing apical region, a new apical region will arise in this portion, even though it is still in physical continuity with the rest of the organism.

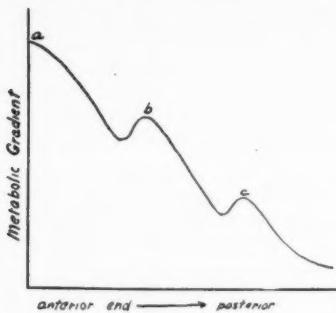


For example, in *Planaria*, the metabolic rate decreases to a level where separation occurs in fission, there a sudden rise in rate occurs. This region represents the apical end of the second individual and the downward gradient following is the gradient of the major axis of this new zoid. Represented graphically, the metabolic gradient in such an animal assumes a curve such as this:

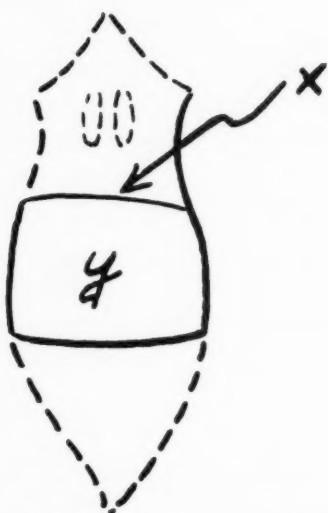
The new zooids resulting are the result of successive physiological isolations of the basal region as the animal grows in length. The act of fission in motor reaction of the posterior zoid or group. When the worm is creeping quietly, the posterior zoid suddenly attaches itself to the surface while the whole anterior end attempts to advance, consequently the body becomes greatly stretched and finally ruptures.

The occurrence of fission can often be controlled experimentally in a way that shows the

variable range of dominance very clearly. One of the simplest ways of inducing fission is to cut



off the head of the anterior individual. Under these circumstances the posterior zoid is more completely physiologically isolated and separation soon occurs.



8. The frequency or absence of regeneration and the type of structure regenerated appear to depend on (a) the level of the cut surface within the original gradient field, and (b) upon the form and steepness of the gradient eventually established between the proliferating tissues at the cut surface and the rest of the piece.

In an isolated piece of the Planarian body the head arises from the apical region "x," for here the cells are more directly affected by the wound and undergo rapid dedifferentiation, and so attain a higher metabolic rate than cells away from the cut surface. Thus after section, they begin to divide and grow rapidly. If these cells give rise to a head, the region "y," (the piece as a whole) undergoes more or less transformation to form

the body of the new individual. The head frequency varies directly as the metabolic rate in 'x' and inversely with the rate in 'y', therefore the head frequency is equal to rate x. Thus the higher head frequency is equal to rate x.

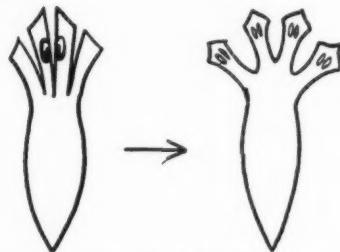
rate y

Thus the higher the metabolic rate in y, (the piece as a whole), the less likely head will develop. The more basal the level of the piece in the original body, the more its metabolic rate is increased by section. Thus the head frequency is lower in more basal pieces.

The facts of experiment indicate that in order to produce a new head, rate x must not merely be higher but much higher than rate y. If rate x is sufficiently above y, x develops independently of y into a head and dominates y, while otherwise y dominates x to a greater or less extent and so retards or inhibits head formation and the various forms between normal and headless condition are produced.

Only when the metabolic rate of the cells at x is high enough to make them essentially independent of y do they begin the formation of a head. Thus as Child epigrammatically puts it, when a new apical region is regenerated, it arises not because of the activities of the rest of the fragment but in spite of them.

Another question arises here. Why, in normal development, is only one head produced, when regeneration experiments show that the apical region is capable of producing dozens, (Fig. page 127, Buchsbaum):



The reason that a given field gives rise to only one structure characteristic for it, is due to the inhibiting effect of a dominant region, once initiated, upon the development of other dominant regions.

9. Next is an extremely important rule, which is, that the action of external conditions upon gradient fields and the morphogenetic processes associated with them is always differential. This appears to be the consequence of the quantitatively graded nature of the fields. The differential action is revealed under three main headings, (a) differential inhibition, (b) differential stimulation or acceleration, (c) differential acclimatization and recovery.

(a) Differential Inhibition

When depressant agents are used in concentrations not permitting acclimatization, the most active regions are the most susceptible and suffer most. This is well seen when regenerating *Planaria* fragments are exposed to narcotics. The heads regenerated are not only subnormal in size, but abnormal in form, in that certain regions are missing. The process takes place progressively as the toxicity increases, first of all the eyes become approximated, and then fused, then the median part of the preocular region fails to form. Higher concentrations affect more lateral and more basal parts of the head, until finally only a small basal head rudiment is produced. Higher concentrations inhibit head formations altogether and only healing occurs.

(b) Differential Acceleration

This occurs in response to exceptionally favorable conditions. The exact reverse from inhibition although such extreme departures from the normal are not seen. For illustration, optimal high temperatures, applied during regeneration of *Planaria* fragments leads to the formation of heads which are not only relatively large, but have widely separated eyes and unusually large pre-ocular regions.

(c) Differential Acclimatization

This occurs in certain low concentrations of depressants. In these it appears that the most active regions, although the most susceptible, have the greatest powers of acclimatization. For instance, intact normal *Planarias* placed in a tank of weak alcohol or ether show a differential reduction in size of head, the whole pre-ocular region disappearing. Later, new growth sets in and this is abnormally high in the most median and most anterior regions leading to "snouted" forms.

In conclusion, "axial gradients" is a term applied to the regular decrease in the rate of protoplasmic activities, which is observed in organisms between one point of the body and another. The region where the rate is highest is the head end

of the animal, and the growing point in plants, and from these points the gradual decrease in rate of activities follows the axis of the organism. It is for this reason that the gradients are called "axial."

The demonstration of axial gradients in the higher animals is made difficult by the high degree of specialization that they show, but it has been established that they exist in protozoa, Coelenterata, Platyhelminthes, Annelids, larvae of Echinoderms, embryos of fish, tadpoles of frogs and embryos of birds. In addition they have been demonstrated in a number of eggs.

The importance of axial gradients lies in the fact that they are set up in previously homogeneous protoplasm by the action of external stimuli, and that once set up, they constitute the prime differentiation of the organism during development, including especially the polarity and symmetry. The relative rates of activity at different levels on the gradients determine the quality of tissue which in development will differentiate at those levels.

During recent years investigations have accumulated a large body of evidence in support of the conclusion that physiological axes are primarily quantitative dynamic gradients in living protoplasmas, that they represent primarily, differences in physiological state, rather than in molecular structure. Such gradients involve differences in rate of fundamental metabolic reactions as well as differences in physical state of the protoplasmic substratum. They have been called for convenience, axial, metabolic, and physiological gradients. So far as the facts go they are the primary indications of the existence of axiate pattern and there is at present no evidence to indicate that axiate pattern can arise in any other way than as a gradient in physiological state.

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"An Instrument"

R. S. Knox, '53

The title of this review will be misleading to most readers, yet what I would like to discuss is just that—an instrument to be used by doctors, psychologists, psychiatrists, physiologists, sociologists, teachers and all who are required to study or handle human beings.

Wm. H. Sheldon, Ph.D., M.D.,¹ is the originator of this new concept and method of observing man. He has set forth his ideas in what is known as the "Constitutional Series"² of which there have been three books published. I will base this review on the first of these books, "The Varieties of Human Physique," with some comments on its sequelae.

It seems wise to begin by giving the bare outline of this work before enlarging any further.

Though there is relatively little instruction in psychology given formally to medical students in Canada, I believe that most students have heard of "body types." Most students have heard of the "J" shaped stomach in long, thin individuals, and the "Steer Horn" stomach. In a course called the "Introduction to Medicine," here in Manitoba, we are encouraged to note whether a person is "Sthenic" or "Asthenic" in build, while doing a physical examination.

This is a stereotyped concept which is used, and no attempt is made to give a concise description of the vast majority of individuals who may not be purely "Sthenic," but are certainly not "Asthenic."

This is the group which Sheldon allows to be described in terms of three components. This is the point which must be remembered at all times; he does not think in terms of types, but in terms of components. One thing further, these components are not absolute, but relative to one another. It is a fluid, dynamic concept, and with it Sheldon has typed, I would estimate, tens of thousands of individuals.

Using standardized photographs of individuals taken from three angles (front, side and back) Sheldon and his co-workers were able to distinguish (from an initial sample of 4,000) three "extremes"; "those which departed most widely from the 'average' male build." These were clearly deviants from the average in major but not minor morphological features.

These extreme variants were then studied (individually and together) and the salient features which distinguished one group from the other, and from the average, were noted. These

features form the inspectional criteria used in gauging the strength of each component in an individual.

The first component was called "Endomorphic." The second component was called "Mesomorphic" and the third "Ectomorphic."

Component 1. Endomorphy

The feature evident in this "extreme" is the relative predominance of soft roundness throughout the various regions of the body. The "digestive viscera are massive and tend relatively to dominate the bodily economy." It is known that the digestive viscera are derived principally from the endodermal embryonic layer, which gives some logical basis for the term.

Component 2. Mesomorphy

This indicates "relative predominance of muscle, bone and connective tissue." The mesomorphic physique is normally heavy, hard and rectangular in outline. Bone and muscle are prominent and the skin is made thick by heavy underlying connective tissue. The entire bodily economy is dominated, relatively, by tissues derived from the mesodermal embryonic layer.

Component 3. Ectomorphy

This means relative predominance of linearity and fragility. Relative to his mass "the ectomorph has the greatest sensory exposure to the outside world," as well as having, relative to his mass, "the largest brain and central nervous system." In a sense, "his bodily economy is relatively dominated by tissues derived from the ectomorphic embryonic layer."

These, then, are Sheldon's "First Order Variables," and by means of extensive check lists of their characteristics, the 4,000 photographs were arranged and "somatotyped."

Somatotyping. by means of measurements and proportional estimations of the photographs allowed a series of three numbers to be assigned to any individual. These numbers indicated a place on a seven point scale (where **seven** is the maximum and **one** is the minimum) for each component. That is, 334 (read "three-three-four," and not "three hundred and thirty-four") means:

Three as opposed to **seven** in **endomorphy**

Three as opposed to **seven** in **mesomorphy**

Four as opposed to **seven** in **ectomorphy**.

This then would be a "**somatotype**," a pattern of the morphological components expressed in the individual. The person would be a 334, a member of the average group of individuals.

Certain "**second order variables**" were also studied:

Gynandromorphy, which refers to bi-sexuality in an individual physique. Hence two identical somatotypes would differ in the degree of

(1) Director of the Constitutional Laboratory and Assistant Professor of Medicine, Columbia University.

(2) 1940—"The Varieties of Human Physique"—Sheldon, Stevens, Tucker. 1947—"The Varieties of Temperament"—Sheldon, Stevens. 1949—"Varieties of Delinquent Youth"—Sheldon, Hartl, McDermott.

femininity displayed. This was also gauged on a seven point scale the "g" index.

Dysplasia, which refers to the "aspect of dis-harmony between different regions of the body." For example, the Thoracic and Abdominal Trunk, Arms and Hands, Head and Neck, may show a dominance of Mesomorphy; whereas the legs and feet show dominance in Ectomorphy. That is, an incongruity appears, a wrestler's body with a runner's legs.

Texture, while difficult to put down in criteria, certainly exists. It is called the component of "thoroughbredness." "High texture component is structure pleasing to any person of average aesthetic perception or of average appreciation of beauty of form and of proportion."

Many other variables could have been studied, but those mentioned plus "Hirsutism" (the hairiness of a physique) were the only ones originally considered. In Sheldon's latest book "The Varieties of Delinquent Youth," a few more "second order variables" are introduced, e.g., "Gnarled Mesomorphy," and "Aplastic Mesomorphy," but the above suffice to give an indication of the content of Sheldon's work.

General

Since the beginning of history man has been trying to understand man, and ever since the time of Hippocrates, medical men have utilized some method for tabulating their patients. Why does one patient faint at a pin-prick while others undergo severe trauma with remarkable stoicism?

Artists have always realized that a character's actions must conform with his physical attributes. Othello must be a strong, strapping, "heroic" looking man; Iago played by an extreme endomorph would fall flat. Show Friar Tuck as an ectomorph and the audience wouldn't believe you. Certainly Santa Claus without his rotund appearance is an impostor, and a fat "jolly looking" Scrooge or Fagan would belie their reputations.

Today's popular literature conforms to this understanding. The popular heroes, Tarzan, Superman, Dick Tracy, Fearless Fosdick and L'il Abner are dominantly mesomorphic, approximately somatotype 1-7-2. They must be or they wouldn't fill the part.

"**Varieties of Human Physique**," sets out the first step in establishing a functional "Constitutional Psychology." "The premise is "behavior is a function of structure." I don't want to enlarge too much on this concept, my purpose being to present only the first step in the procedure. However, Sheldon points out that this first step, "somatotyping," could form a basis for physiologic, sociologic, psychiatric and many other studies in which the facets of human behavior and function are observed.

History of Present Work

Working at the University of Chicago, Sheldon attempted to classify a large number of students by using measurements, indices and terminology of some previous writers. Of 400 male undergraduates he found he was able to pin-point only 12%. All the rest were mixtures.

Some decisions were made in the face of the inadequacies of the previous studies which resulted in the photographing of 4,000 male undergrad students in several midwestern and eastern universities. These were between the ages of 16 and 20 years.

With this large sample of standardized photographs, Sheldon and his co-workers made observations and were able to find only three extreme variants. (It should be noted that they looked for no particular number of types, but these three "extremes" were so obvious and recurrent that they could not be denied).

In brief, on the basis of their observations, a trichotomy was decided upon. An embryological basis was used for this terminology.

Their object was to provide an instrument which would enable trained personnel to classify accurately that 88% of the population formerly untouchable by other than laborious, lengthy descriptions.

Inspection Criteria

The procedure used in somatotyping is simply and adequately explained in "**Varieties of Human Physique**." Suffice to say that it involves both anthroposcopy and anthropometry. It is noteworthy that **anthroposcopy**, the eye of the individual somatotyper, is stressed above **anthropometry**, the actual measurement. All the work is, of course, done from standardized photographs, but some of the criteria used to make an anthroposcopic estimation will give readers some insight into the work.

One word of warning—pin-point somatotyping cannot be done without photographs. However, with a few criteria in mind, it is fairly simple to observe the **dominant component** in an individual with perhaps the secondary component, **after some practice**.

Sheldon suggests that for some studies the 76 somatotypes would be too cumbersome. He suggests that some grouping of the 76 would be satisfactory; such as naming the dominant and secondary components evident.

For example, we have "Ectomorphic Mesomorphs," meaning individuals who are predominantly mesomorphic and whose secondary component is ectomorphy. We also have "Balanced Ectomorphs," meaning individuals with dominance in ectomorphy, having the other two components equally strong. Similarly, there are "Extreme Endomorphs," "Mesomorphic Endo-

morphs," "Ectomorphic Endomorphs," "Extreme Mesomorphs," "Endomorphic Mesomorphs, Extreme Ectomorphs, Endomorphic Ectomorphs," "Mesomorphic Ectomorphs" and "Balanced." The great majority of college students enter the "Balanced" class, covering somatotypes 444, 434, 344 and 443.

Endomorphy

1. Roundness and softness of body. The A-P diameters and Lateral diameters tend to equality.
2. Central concentration of mass.
3. Predominance of Proximal segments over Distal segments.
4. High square shoulders with soft contours.
5. Lower Facial Breadth approximates Upper Facial Breadth (Spherical).
6. No muscle relief.
7. Upon palpation, bones are small.
8. Vertebral column appears relatively straight in the lateral view (varying sharply from the typical "S" curves of the other types).
9. Waistline is high.
10. Ribs form a wide angle with the vertebral column and with the sternum.
11. There is no dimpling of the lateral aspects of the buttocks, but instead a round "pneumatic" fullness.
12. The outer line of the thighs, in frontal and dorsal views, reveals what is called the feminine contour or female ellipse. The outer curve is continued to the calves.
13. Skin is soft, smooth and velvety, resembling an apple.
14. Pubic hair shows the so-called female contour.
15. A premature tendency to baldness is evident even in youth. This is a round, even baldness beginning at the top of the broad-domed head, spreading peripherally in an almost perfect circle.
16. The hard palate is wide, low and parabolic in shape, in sharp contrast to the high, narrow ectomorphic palate.
17. The genitalia are hypoplastic. Penis is short. Prepuce is frequently too long. Undescended testes are common.

Mesomorphy

1. Squareness and hardness of the body. Large prominent bones. Rugged, prominent, massive muscling.
2. Shoulder, forearm and calf transverse diameters exceed the A-P diameters.
3. Limbs are heavy and large, with the distal segments relatively prominent and massive, and may equal the thickness of the upper arm.
4. Thoracic volume predominates over the abdominal volume.
5. Shoulders are broad, trunk usually long and upright.

6. Trapezi and deltoids are invariably large and prominent.

7. Pelvis is sturdy and powerful with broad hips. (The narrow hips often seen in an "athletic" physique are presumably due to the presence of the ectomorphic component).

8. The head shows heavy supraorbital ridges, prominent and massive cheek bones; heavy, square jaws. The facial mass is relatively greater than the cephalic mass.

9. The back seen laterally is relatively straight in the thoracic region, but there is a relatively sharp bowing low in the lumbar region. "Lower bow of the 'S'."

10. Abdominal muscles are prominent, thick; and there is dimpling of the buttocks.

11. Waist is low, often very low.

12. Skin is thick with conspicuous pores. Takes a deep tan readily and holds it for a long time. Likened to the skin of oranges.

13. Hair is usually coarse and pubic hair has the "masculine pattern."

14. Baldness is variable usually appears on the front of the head.

15. Genitalia are usually well developed and compact. Scrotum is relatively thick and firm.

Ectomorphy

1. Linearity, fragility and delicacy of body. Small delicate bones. Slight thready muscles.
2. A-P diameters and transverse diameters are reduced but transverse not as definitely so.
3. Shoulder droop is a constant feature.
4. Lumbar curve is high and flat (cf. mesomorphy). The Thoracic curve is relatively sharp and elevated.
5. The costo-vertebral angles are acute. Ribs are delicate and prominent.
6. The rounded shoulders are carried well forward and produce a marked clavicular hollow.
7. The ectomorphic abdomen protrudes below the umbilicus generally.
8. Limbs tend to be long in the distal segments.
9. Knuckles and joints are small. When prominence occurs, apart from pathology, it is due to a degree of mesomorphy.
10. Neck is long and extremely slender with poor muscling and when mesomorphy is minimal there is no trapezius support. The neck projects forward, forming an angle with the line of the back.
11. There is relatively a small facial mass as compared with the cranial mass.
12. The features of the face are uniformly small; sharp and fragile. The lips are delicate and thin.
13. In the lateral view the chin is somewhat receding.

14. The hard palate is a "u" shape—long, narrow and restricted anteriorly.

15. The head is frequently a more or less irregular shape with bosses common, depending, of course, upon the secondary local influence of the other two components. The relatively wide head is a common variant, and when this occurs the sharp contrast with the narrow hypoplastic face is striking.

16. Skin is thin and dry. Typically the color is poor—pale and ashy. It burns easily and peels quickly.

17. Ectomorphs experience difficulty in maintaining an even temperature. They are more easily frozen than other people.

18. The skin lacks elasticity and returns slowly to position when pinched up. This is in sharp contrast to the mesomorphic skin which snaps back.

19. Hair is usually fine, grows rapidly and baldness is rare. It is typically hard to keep in place.

20. The genitalia show marked linearity and are as a rule hypertrophic. Scrotum is long and testicles hang freely. The left testicle is usually lower than the right.

21. Penis is long with a well developed corona.

Gynandromorphy—The "G" Index

A few points may be useful when estimating this secondary variable. It should be remembered that this differentiates **two identical somatotypes**. They are the same animal but one exhibits the characteristics of the opposite sex more than the other.

1. The extent to which the features suggest femininity. Feminine facial characteristics include principally smallness and rounder relief (not necessarily the endomorphic roundness of the whole); small, oval eyebrows; long eyelashes; small nasal alae; a small mouth with full lips.

2. Disproportionately wide hips.

3. The hour-glass or figure "8" appearance of the body as a whole. This involves a high waist, soft molded shoulders, a full sweep of outer curve from waist to knee.

4. Sparsity of secondary hair and feminine distribution of pubic hair.

5. Feminine softness of the subcutaneous finish of the entire body.

6. Prominence of the outer curve of the lower leg as compared to the inner curve.

Application of the Criteria

The criteria listed above are used to make the anthroposcopic estimation. Sheldon's list is not exhaustive and does not include all the points which could be used. They are arbitrarily chosen as qualities exhibited by the extreme variants "which any experimenter can readily pick from a large population."

Observation of any one of the features listed merely gives the individual a **plus** towards dominance of any one component, a number of features indicates dominance.

By dividing the body into regions (**region one**—head, face and neck; **region two**—thoracic trunk; **region three**—arms and hands; **region four**—abdominal trunk; **region five**—legs and feet), it is possible to observe the dominant component in any one region. Thus we can observe any conflict at the morphological level; i.e., dysplasia, or incongruity in a build.

The somatotyping technique involves the following procedures:

1. **Anthroposcopy**—(a) **of the body as a whole**: the "general impression" received by the observer.

(b) **of the regions as listed**: estimations are made and noted.

2. **Anthropometry**, involving the use of anthropometric tables is used to verify the somatotyper's estimations. This idea is important and if the anthropometry varies more than one degree from the anthroposcopic estimation, either of the body as a whole or any one region, the measurements are first checked for correctness then the anthroposcopic estimate is made again.

Anthroposcopy is thus given the most important place in the schema.

Commentary

What has been said covers in a general introductory manner the morphological level of an individual. One might well say, "So what, the fact that a person is a mesomorph doesn't mean a thing."

This is true, and hence this review was titled as it is—"An Instrument." Using this instrument it is possible to study activity at other levels. Sheldon has concentrated his efforts, so far, on observing temperament (or physchologic activity) and psychiatry. But this is not all that can be done with this instrument.

Dietary problems are a headache for every physician. It has been suggested that a thorough study of the varying dietary requirements of these various groups, the somatotypes, might reveal a more useful sliding scale than is at present available.

Innumerable diagnostic tests stand the chance of becoming more useful, through refinement by increased correlation with types of people. For example, a normal electrocardiogram for a mesomorph may not be normal for an extreme ectomorph—but at present both must be regarded as variations within the normal range. Eventually clinicians may be able to get away from their old refrain, "On the whole, this is true—but there is great individual variation!" In the future he may be enabled to state, "On the whole this is true, but since this patient happens to be a 317, an

extreme ectomorph, he will eventually require surgery!" The possibilities are enormous.

To those readers interested in putting these findings to personal use, I must risk impertinence by suggesting that they do not lose sight of the forest for the trees. Take a look at a few somatotyped photographs and get general impressions.

Take care against attempting to estimate dominance in a man wearing a "zoot suit." Remember also that women wear girdles and such. Summer beaches are an ideal place to observe dominance among a variety of people, but the winter months will provide only shirt sleeve estimates plus a few patients. All this won't make a somatotyper but will prove the convenience of this system.

Usually you will find one component is dominant but unless the secondary component is clearly evident, classify as equal with the third. As mentioned previously, you will meet more "Balanced Endomorphs," "Balanced Mesomorphs" and "Balanced Ectomorphs" in the college population than any other.

Sequelae

"*Varieties of Temperament*" tells of a second "instrument," one with a more restricted application—the estimation of a person's psychologic activity. Again three components were found to exist, and criteria were established. Those chosen were thought "least likely to be influenced by environment."

Simply and briefly the "Temperament" components are:

Viscerotonia

This is roughly identical with love of comfort, relaxation, sociability, conviviality, and sometimes with gluttony. It is the motivational organization dominated by the gut and by the function of anabolism.

Somatotonia

This is the motivational pattern dominated by the will to exertion, exercise and vigorous self-expression.

Cerebrotonia

This is the attentional and inhibitory aspect of temperament. The cerebrotonic individual is tense, hyperattentional, and under strong inhibitory control.

These components of temperament appear to correlate with patterns of somatotypes and combine in various proportions. The correlation coefficient between the morphologic and temperamental level is +0.80. In a general way we can observe somatotonia in mesomorphs, viscerotonia in endomorphs, and cerebrotonia in ectomorphs. That is to say: most **mesomorphs** exhibit an urge to move—they cannot stay still after meals, etc.; most **endomorphs** are relaxed and love social conviviality; and most **ectomorphs** are hyperattentional, over-quick in response, and prefer small groups—tending to shrink from crowds.

Yet another application of this same device has recently been described by its originator, Sheldon, in "*Varieties of Delinquent Youth*." He found the same number of somatotypes amongst these boys, but there was a significantly greater incidence of **dysplasia** and **gynandromorphy** present. In other words, in these boys there appeared more evidence of morphological antagonism or conflict, even though the distribution of somatotypes was the same as for normal groups of boys. These facts introduce a basis for a "*Constitutional Psychiatry*."

In conclusion, I will answer one question most widely asked regarding this work: **Are somatotypes permanent?** This question was answered in 1940 as follows: "The question as to whether or not the somatotype can be modified during the lifetime of an individual can be answered with finality only after a few hundred physiques have been followed closely throughout the whole of a lifetime, and photographed at regular intervals. This, of course, we have not yet done, but it has been possible to follow the development of several hundred individuals over a period of a dozen years, and while many have shown sharp fluctuations in weight, we have discovered no case in which there has been a convincing change in the somatotype." This statement stands today.

References

The three references are by W. H. Sheldon and are published by Harper and Brothers of New York.

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The Reality of Psychic Phenomena

D. F. Campbell

Throughout the history of man there have been few problems so consistently present and yet so continually shrouded in a veil of uncertainty, fear and apprehension as the problem of survival of the human personality, and if such be the case, the relationship, if any, between survival as such and the occurrence of occult or psychic phenomena.

Although the records of psychic phenomena—the “ghosts,” the unseen and mysterious voices et al—go back for centuries, the history of their scientific investigation and evaluation is relatively brief. It was in 1869 that the London Dialectical Society appointed a committee of 36 of its members, including Darwin's co-worker, Alfred Russell Wallace, and Edwin Arnold, noted author, to investigate and report on “phenomena—alleged to be of a ‘spiritual’ nature.” Their published report failed to gain scientific support, and even drew public ridicule. Not all were discouraged. William Crooks (later knighted) the noted English physicist, took up the study of this perplexing subject and with his entry into the enquiry we come to what is now generally regarded as the beginning of the scientific period in psychical research.

Within a few years he stated publicly that he had found the phenomena of certain mediums investigated to be genuine, including: (1) movement of inanimate objects without visible physical contact, (2) luminous appearances, (3) phenomenal sounds and most astounding, (4) supernormally produced hands, faces and full human forms having the appearance of possessing complete biological life.

Some 50 years later, Professor Charles Richet, member of the Paris Academy of Medicine and winner of the Nobel prize in medicine in 1913, stated—“Crook's work has become the foundation of metapsychic science—a block of granite that no criticism has been able to touch.”

By 1880, with the founding in London, England, of a Society for the Study of Psychic Phenomena, the study of metapsychic science became firmly established. Early members of this group included Profs. F. W. H. Myers and Sedgwick of Cambridge; Prof. W. Barrett of Dublin U., and Arthur Balfour (later Earl Balfour).

In more recent years there has been perhaps no one on this continent who has contributed more to the establishment of the existence of psychic phenomena than the late Dr. T. Glen Hamilton, M.D., F.A.G.S., of Winnipeg. Inasmuch as the credibility of any scientific observations, particularly in this field, are as much dependent on the character of the observer as they are on the techniques employed, a brief biographical sketch is in order.

Dr. Hamilton was born in Agincourt, Ontario, educated in Winnipeg, Manitoba, graduating in Medicine in 1903. He established a practice in Elmwood, a suburb of Winnipeg, and continued in practice there until his death in 1935. He was a lecturer in clinical surgery at the U. of M., a member of the surgical staff of the Winnipeg General Hospital, secretary, then president of the Manitoba Medical Association, 1921-22, and member of the executive of the Canadian Medical Association, 1922-1933. Of him Dr. Bruce Chown, then superintendent of Winnipeg Children's Hospital and well known for his work with the Rh factor, has said “What shall I say of this man—this elder—this excellent physician! From table rapping he passed . . . to trance writing . . . to photography of masses extended from the bodies of mediums and later moulded into the likeness of known dead. These phenomena were all genuine. The yellow fog of doubt that surrounds mediumistic doings was dispelled by the character of the man.”

The series of events which stimulated the curiosity of Dr. Hamilton to the point where he embarked on a personal attempt to verify or negate the existence of psychic phenomena would be of little value here. Suffice to say that the winter of 1920-21 found Dr. Hamilton with ten interested friends holding seances at weekly intervals in his home. During this time, their medium, whose powers or sensitivities in this respect were revealed quite fortuitously, was a practical nurse, Mrs. Poole, whom Dr. Hamilton had, on occasion, employed in his practice. At each meeting, a secretary was present to record verbatim all that ensued. Phenomena recorded were, in the main messages spelled out by the tapping of a specially designed and located table to the alphabet, and the elevation of the table, by itself. The messages were spelled out by the tapping of a table leg on the floor, i.e., as the letters of the alphabet were repeated, in order, by someone in the group, the table would tap whenever a letter, to be used in composition of a message, was called. These messages were persistently signed W. T. Stead or Myers. The complication here was that the intelligence behind the rap was not that of Poole, the sensitive. However, the energy required to elevate the table apparently came from her body since when the table, elevated, was pressed on heavily, she cried out as in physical pain. This type of energy—that capable of moving inanimate things without apparent physical contact, is referred to as telekinetic.

During 1921-22 the sittings were no longer held. Dr. Hamilton, at that time president of the Manitoba Medical Association, having a large practice and having convinced himself and satisfied his curiosity, was content to turn his attention to other

matters. He still hesitated to admit that these entities whose work he had witnessed were in fact who they stated they were—Stead and Myers.

However one year later from Mrs. Poole and her table rapping came another message from Stead, "Please go on with your work—more ahead!" Dr. Hamilton could not evade the conviction of his own senses and the work was continued.

It is essential that the aims of the Hamilton group be fully understood. They were:

1. To establish the validity of the phenomena.
2. To make some attempt to determine the nature and origin of the physical and biological products they saw.
3. Determine the nature of the psychic intelligences (trance personalities—extrinsic psychic entities) which invariably accompanied psychical phenomena.

Method Followed by Hamilton Group in Their Study of Psychic Phenomena

The seance or sitting was held in a specially prepared room in Dr. Hamilton's home. This room had been especially redecorated to comply with physical arrangements of personnel and equipment as outlined by earlier investigators (see plate Ia — page 55 — "Intention and Survival").

Seance proper: group of people seat themselves in a darkened room and join hands. After a variable length of time, one or more of the members passes into a sleep-like state. This is the trance. It may take various forms and give rise to many different phenomena among these being trance speech which involves the use of the medium's own voice by a trance personality. The characteristics of speech and of tone-pitch are generally quite different from those of the medium. Speech may be directed towards Dr. Hamilton in form of instructions for photography or seance procedures or when the more definitely experimental part of the sitting was not in progress, the trance entity might talk and joke with members of the group. Or a sitting might pass two to three hours without a spoken word save at the conclusion when it was the invariable custom of one of the principle entities—Walter Dawn—to speak at close of seance.

Group Attitude: The question of group attitude towards the trance intelligences is very definitely a part of the working hypothesis underlying the entire investigation. Generally, the attitude of the group was this: (a) allow phenomena to occur, (b) adopt a semi-detached attitude toward the content of the phenomena, (c) record all observations by use of flashlight photography and/or stenographic recording and (d) afterwards—base opinions solely on this record.

This, then, is the general program that was followed in the twelve years of research that followed Dr. Hamilton's resumption of his investigations in 1922. It would appear that this is the logical point at which to introduce some definitions, explaining what is a medium? What is a trance? What is a trance personality?

The term **medium** is one which is in the process of being discarded from the metapsychic nomenclature. An individual possessed of "mediumistic" ability is a sensitive—one who responds to a particular form of extra sensory stimulus allegedly originating or emanating from some external intelligence or personality. This is done by entering an hypnotic-like state in which the sensitive is capable of telepathically receiving and/or reproducing the ideas of the communicator. This definition does not cover all types of mediums, but will suffice. It is interesting to note in passing that apparently only a few people have this ability: the actual property of mind or body that imparts this characteristic sensitivity is unknown. This sensitive ability may and has in one case I knew of manifested itself in spite of a highly developed intellectual inquisitiveness and scepticism on the part of the individual effected. This was the Winnipeg lawyer "Ewan" referred to in the book "Intention and Survival." Just as these critical faculties made him a poor agent for mental trance products, so the absence of these same factors was apparently one of the main reasons why Elizabeth M. Poole was a great mental medium. The complete absence of the critical faculty left the portal between the trance personality and the medium's submerged self undisturbed by eddy currents of scepticism, doubt and curiosity.

Trance State: A condition in which the consciousness is narrowed down by threshold value, i.e., that of stimuli received from extra sensory sources.

Trance Personalities (Psychic Entities): A personality manifesting through the agency of an entranced sensitive, a rational form of consciousness. As to the identity of these who acknowledge the genuineness of phenomena. The balance of opinion to date is in favor of the so-called "spiritistic" hypothesis where the controlling intelligences are external and "non-living." During the period 1923-27 when the principal sensitive for the group was Mrs. Poole, four personalities made their appearance identifying themselves as Robert Louis Stevenson (R.L.S.), David Livingstone, W. T. Stead, and Camille Flammarion (French astronomer). In this early work dealing with subjective psychic phenomena (visions, trance speech) and in the later work which utilized a different medium and dealt chiefly with objective phenomena (ectoplasmic or teloplasmic manifestations) each personality has been identified by a

double name that represents (1) the name the personality gave itself and (2) pseudonym given the sensitive. For example, in the work presently to be described, one intelligence called himself **Walter** and came through a medium called Mary Marshall whose pseudonym was **Dawn**. Thus this personality was referred to as **Walter-Dawn**. Two things must be understood before proceeding further:

1. That all phenomena observed and heard in the twelve years had as their apparent aim, the proof that these psychic personalities were in reality discarnate entities.

2. That the direction of seance procedure photos, etc., were all under the control of these personalities. The members of the group were observers.

Dr. Hamilton's work consisted in the making available of the mechanism by means of which external intelligences could make the group aware of their existence and identity.

The work itself falls naturally into two periods: the first from 1923-27 dealing with the simple more subjective phenomena such as telekinesis, trance speech and writing, bell ringing, hallucinatory visions, etc. The sensitive used here was Poole.

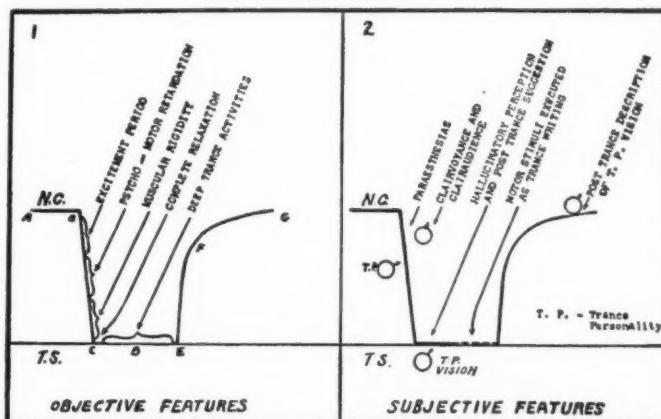
The second period from 1928-33 dealt with the complex, more objective ectoplasmic materialization. The principal sensitive employed here was Mary Marshall (Dawn).

Concerning the manifestation of the more subjective phenomena of Mrs. Poole, there was a trance syndrome that was remarkably constant once it had attained its full complexity.

paraesthesia such as a sense of electrification of hair or "cobwebby" sensation of face. Sensitive attempts blowing and brushing away: **clairvoyance** and **clairaudience** begin to appear, i.e., the sensitive seems to see and hear the psychic entities who seem to be near her (objectively) and endeavoring to catch her attention. At this point, the sensitive may manifest features resembling medical hysteria—apparently arising out of the medium's subconscious fear of the unknown, i.e., mental inhibitions which tend to prevent the onset of trance and retain normal integration of personality. This factor was minimal with Poole and marked with "Ewan."

As time proceeds, a psychomotor retardation sets in—all motion ceases, the limbs take on a waxy flexibility, she no longer responds to sensory stimuli. Soon all musculature becomes fully relaxed—the point at which the last vestiges of voluntary control are surrendered by the medium. Full relaxation present, trance ensues. Physical examination: anaesthetic skin, pulse 40-50, respirations—as low as 6 per minute. This state represents the peak of sensitive's receptivity. During period of trance, there are two subdivisions CD and DE: CD—quiescent period of trance during which the sensitive allegedly sees visions of people and places she had never seen in her waking state; Period DE—period of motor automatism which during the five years of Poole's tenure evolved from (1) slapping the hand synchronously with desired letters in the vocally repeated alphabet, (2) period of trance writing, (3) period of trance speech—the progression in efficiency of medium in transmitting her control's thoughts can be

Figure 1



See Figure 1:

N.C. here represents normal consciousness and T.S., of course, the trance state. At point B, the medium starts to lose consciousness and passes into an excitement period which is due to various

interpreted as an increasing dexterity in external entity's control of the sensitive.

Poole was alleged to have been under the control of W. T. Stead, R. L. Stevenson, and Livingstone.

These various entities attempted to establish their identity in two ways: (a) by a fairly distinct form of hand-writing (trance writing); evidence here was only suggestive; (b) by specific visions which recalled events in past life of each.

During the period 1923-27, 388 seances took place: 970 separate trance products were evolved of purely mental type and 470 of these were associated with psychic personality claiming to be Robert Louis Stevenson. I will describe briefly, one of these trance products. As has been pointed out, each of these transmissions consisted of two parts—the vision and the script. The latter usually provided a clue to the original incident in R.L.S.'s life and with this as a text, the investigator could usually locate the memory idea by searching through the writings and biographies of R.L.S. The vision was designed to illustrate the text.

The example is as follows: on coming out of trance, Poole was able to describe having been led over a path winding its way through rock—two points which stood out were her constant reference to the rocks she saw and the bright sun. The message, the script was, "That will come, like gray hair and coffin nails." Although the vision had apparent reference to top of Mount Vaea in Samoa where R.L.S. is buried, two years was to pass before the significance of the script was elucidated. It was found in a condensed version of a sentence in a letter which Stevenson had written to his mother when he was 18 years of age in which he mentioned the difficulty he was having in reconciling his own literary and to that extent impractical views with his father's stolid materialism—but he said that doubtless with time he could adopt the same practical attitude of his father "that will come," he said, "like gray hair and coffin nails." The interpretation of the quotation is, of course, obvious: its theme is the inevitability of death, Stevenson's burial place, seen in hallucinatory form serving as a fitting illustration of the idea.

The example serves to illustrate the nature of the phenomena of this first five year period. In the case of the alleged R.L.S. phenomena, the communicator constantly gave evidence that he was an intelligent and consciously planning entity of some sort, aware of the past of R.L.S. That he—the entity—believed himself to be the deceased R.L.S. is clear, and the only significance we attach to the Stevenson-Poole work is in the demonstration of memory.

The Second Period in the observations of the Hamilton group extended from 1928-33 and dealt with the more complex ectoplasmic materializations. Herein lies the strongest evidence of the purpose (intention) of discarnate personalities to build up varied and cumulative proof of their continued existence and personal activity (survival).

The organization of the seance remained basically the same as it had been during the recording of the Poole phenomena. However, the technique varied. Firstly, although there were usually three or four mediums present at the seance, they were apparently not all equally useful to the controlling entities. While Elizabeth Poole remained in the group and went into trance with the other sensitives present, a new sensitive was selected for the new phenomena—she was Mary Marshall, known as Dawn. The directing entity of almost all the phenomena went by the name of Walter. Ergo, the controlling trance personality, was Walter Dawn.

The phenomena produced were by and large, ecto- or tele-plasmic in nature.

Ectoplasm is a substance, the exact nature of which is yet unknown. Physically it may appear in various forms—a protoplasmic paste, a number of fine threads, as rods, as rigid walls or as thin tissue with an ill defined irregular outline. It may be white, gray or black; commonly white. Each form seems related to a specific function. It seems imbued with a primitive form of life—sensitive to light and touch dissipating rapidly when exposed to either. It normally issues from one of the natural orifices of sensitive's upper body and disappears in the same manner it appeared. It is apparently an energy manifestation—an energy product of the body not known to science. Some investigations claim to have felt it saying only that it is soft, moist and cool: detail photographs reveal a fibrous structure.

Ectoplasmic phenomena fall into three broad groups, classified according to their degree of organization:

1. Unorganized, Amorphous Type—The least important group and the first to be observed by the Hamilton group: chief value lies in that they permit a study of some of the physical properties of ectoplasm.

2. Imitative Type—In which a recognizable object such as a hand, sailing ship, etc., is "moulded" by the trance personality: we see at this stage dealing with "group mediumship" by which is meant the nearby simultaneous entry into trance state of varying depth of three or four sensitives apparently in response to the control hypnosis of an external intelligence, the latter being in most instances, the alleged Walter. His stated purpose was that from other sensitives as well as from Dawn did he draw the energy for the production of the ectoplasmic phenomena. The other sensitives acted apparently as energy reservoirs—the more complex the production, the more energy required.

Figure 2 represents a hand simulacrum observed at one seance under the direction of Dr. Bruce Chown.

Talking machine—while in most cases, the medium's voice mechanism was used, altered in tone and inflection by the control, in a few instances what was known as direct voice was used. The control, Walter Dawn, said he preferred direct voice because it offered him a vehicle for conveying his ideas largely uncoloured by personality traits of the medium. This method, however, was a great strain on the medium—see **Figure 3**.

3. **Differentiated Teleplasm**—Areas or masses



Figure 2



Figure 3



Figure 4

of material photographically similar to human faces, etc. The differentiated teleplasm represents the ultimate in psychic phenomena and constitute the most convincing evidence of the reality of the individual existence beyond this sphere. As an example of this type and of this second period, I have chosen the Lucy teleplasm. The accompanying picture — **Figure 4** — was the most remarkable phenomenon observed by the Hamilton group. The controlling entity, Walter Dawn, stated his intention some six months prior to the actual production. Special and detailed instructions were given regarding the method to be followed, including the precautions to be taken in the control of those factors which, if uncontrolled, would render the evidence inadmissible. The actual method can be found outlined in Dr. Hamilton's text — "**Intention and Survival**." Suffice it to say here, that Isaac Pitblado, K.C., L.L.D., an eminent Winnipeg and Canadian lawyer, was asked to be present as official scrutineer. His conclusions in a signed statement were, "I am convinced that the phenomenon of the figure seated in the chair to the left of the medium was genuinely produced without aid of any known physical or material means, processes, or apparatus, and that there was no possible fake or trickery."

The function of Science is first to verify and then, if possible, to understand. This, in very brief, is a review of the scientific history of psychic phenomena. References to the work of Dr. T. Glen Hamilton were in large measure based on information contained in the text, "**Intention and Survival**" published after his death, and edited by his son, J. D. Hamilton, M.A. My sincere appreciation is extended to Mrs. T. Glen Hamilton for her aid and co-operation in supplying background material.

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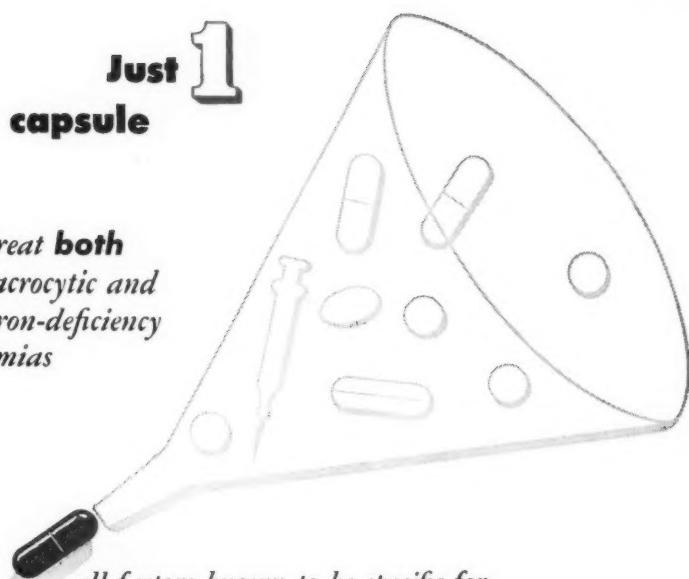
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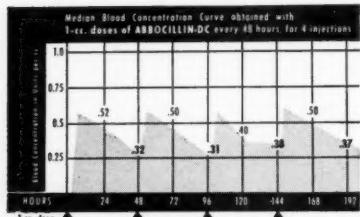


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A Way of Life

Wm. Ewart '52

Ed. Note: The author, after spending one short summer in the Indian Service, carried away impressions and insights that will stay with him for a good many years.

It is extremely difficult to describe adequately the Indian way of life. One must sense their pleasures and feel their problems personally before printed descriptions can convey all they should.

However, even if he only succeeds in making some of us aware of the Indians' presence, he will be justified in telling a few of his summer's tales . . .

Picture if you will leaving Winnipeg by air, flying north for a few hours and circling down on one of the many isolated reserves to be found in Northern Manitoba. The first sign of civilization is a large, clean white, Hudson Bay post with a Union Jack fluttering majestically from the flag pole. A closer glance will reveal clustered nearby a number of small, dirty, grey huts with an occasional wet moccasin dangling from the roofs. This is the picture from the air of a typical reserve village. It could be Pukatawagan, York Factory, Shamattawa or any one of the couple of dozen reserves to be found scattered throughout Northern Manitoba. Down below if one was fortunate enough to visit, he would encounter a Hudson Bay trader, a missionary perhaps, a couple of hundred Indians, and of course—much disease.

It is from reserves such as these that news of occasional epidemics is flashed to the world. The newspaper stories are inevitably built around the mercy flight of some intrepid airman, flying medical supplies to the outpost of civilization: and yet behind the headlines there is often a story of far greater drama . . . one of these I wish to relate.

Duck Lake reserve lies about 200 miles north of Churchill. It is inhabited by a Hudson Bay trader and one hundred Chippawa Indians. The "Chips" as they are nicknamed by the northerners, exist on the fringe of barren land between the Crees on the south and the Eskimos to the north. Rejected by both of the latter tribes because of their ignorance, the Chips have a difficult time surviving in the country left to them. Needless to say they are the most uncivilized of our Northern tribes.

The story begins in 1948 with the Fall caribou run—or lack thereof. Only a few deer were obtained and the tribe had existed on short rations all winter. One day word was received by radiotelephone from Duck Lake that an epidemic had broken out—could help be sent? The aircraft was despatched. The doctor diagnosed measles in one hundred per cent of the tribal population, and the nurse was left to do her work. The work became a nightmare. The Indians were too weak to provide food for their dogs, and the reserve covered a radius of six miles. The daily rounds consisted of tramping alone through the snows carrying food and "stabbing" medicine (penicillin) to all the huts on the reserve. Nevertheless things

progressed normally for the first couple of weeks.

During the second week she visited an isolated hut, well covered by the drifting snow. On entering she discovered a family—consisting of several children and both parents—huddled in rags on the floor. In one corner of the diseased hut lay two bundles of caribou skins—one containing a fetus and the other a placenta. With only the Northern snow with its wild dogs as a burial ground, the products of conception were quickly burnt. On hearing this the tribal chieftain rose from his sick-bed in savage fury over such a pagan orgy—jabbering frantically at the exhausted nurse—but the deed was done. However, from this time on the nurse's daily visits were met with sullen resentment, and she more than welcomed the completion of her six-week mission.

Only a few Indians died.

As can be readily seen, the Indians do not acknowledge the wonder of the white man's medicine with the blind faith of the third year student or the woman seeking relief from low back pain. At times this is tragically evident. One day during treaty at a reserve three hundred miles north-east of The Pas I decided to seek out the local medicine man (which in this case happened to be a buxom squaw). I had heard many stories throughout our trip concerning an Indian brew for the prevention of pregnancy, and for causing a shortened gestation time. With the aid of a fearful interpreter attempts were made to probe and bribe my way into some knowledge of Indian witchcraft. I realized (before her son-in-law became too hostile) that my attempts were to prove fruitless. All I obtained was a scornful remark about the inoculation of healthy people. In order that they could show me evils of the white man's medicine, I was led to a two-year-old child, unable to walk due to her vaccination of the previous year. The child was a beautiful example of a bilateral congenital hip—offers at treatment were of no avail for the fat old wrinkled medicine woman dismissed them all with a knowing glance.

Fortunately not all such cases terminate so miserably. One night in The Pas we received a call from one of the most stubborn holdouts on the local reserve. He rang the door bell, curtly informed us (in good English) that his child was sick, then left. The doctor sensing the significance of such a call drove immediately to the Big Eddy reserve fully expecting a serious case. On entering the home we found the first full-blown case of bilateral lobar pneumonia that I had ever seen. The child was moribund. She had received Indian herbs for three days to counteract the convulsions. The father refused to allow her entree into the hospital: fortunately the stabbing medicine saved another patient and perhaps gained another convert.

If only the treatment of tuberculosis could be as successful . . . When the Indian Sanatorium at Clearwater was first established, and the mobile X-ray first reviewed the Indians at treaty time, the Indians in even the most outlying reserves were found to be "loaded." Naturally the worst cases (and those most likely to have positive sputum) were dealt with first. The marked ones were uprooted from their lifetime homes and forcibly whisked away to the sanatorium, in most cases never to return. Suspicion arose amongst the Indians concerning the curious picture machine the white man brought with him at treaty time. Subsequently only with threats of non-payment of treaty money and the assistance of the all-powerful red coat was the Sanatorium Board able to gain adequate coverage. Fortunately in the past couple of years a few of the treated cases have been able to trickle back to their homes, and in a few more years the attitude of the Indian may change.

Not all the life of the Indian is wrapped up in disease and suffering for the adults are able to retain the basic simplicity of their childhood, which gives them a personality which I found completely refreshing. It is difficult to demonstrate this with any single incident, but perhaps the description of an Indian dance would help . . .

The Indians are very musical. Almost any child is willing to take his turn at the fiddle. But at treaty time the best fiddler in the district is obtained, even if he has to be flown in to the reserve. The dance starts at nightfall, and one is guided to the correct cabin by the rhythmic thump of the moccasined feet keeping time with the fiddler. The white man on entering, is escorted by the chief to the choice seat on the bench beside the musician. Here he sits in all his splendour with the other braves, whilst the squaws and children squat ignominiously on the floor. Since the cabins are rarely more than twenty feet square, and the whole reserve attempts to attend, there is by necessity only a few feet for dancing and the overflow is forced to smudge noses against the glass windows.

The dancers are all squares, called very often with a broad Scottish accent by a brave who is unable to speak a word of English. The men silently rise and stand with folded arms, and if one observes closely he will detect the slightest nod directed toward some giggling squaw. Shortly the chosen girl will demurely join her partner and the dance will begin. The men fly, the women shuffle, and the whole audience claps, laughs, and thoroughly enjoys itself. All will take part at some time during the evening, for the chief ensures that not only the youngest able to walk but the oldest able to shuffle will have a dance. Needless to say it is not long before the white man becomes a part of the proceedings, and soon forgets his cultured dignity.

But the white man on the outside should never forget his medicine. Not only for his good but for the welfare of the Indians. For before we can proceed much further in our many and varied provincial health programs we must eradicate this constant source of infection. Great advances can be made in this fertile field of social and preventive medicine. Representatives of white-man medicine, those few who know the situation, worry about it. But the Indians enjoy the lotus leaves supplied by the government, and in most cases would rather live as they are—assured of never dying of a peptic ulcer or essential hypertension.



Should Internes Be Fed??

Harry Little

This topic is discussed three times a day in every hospital in the nation. It has been on the agenda of student councils on many occasions, and CAMSI has done considerable work in an endeavor to obtain even small meals for internes, in at least some of the teaching hospitals across Canada, with little or no success.

So great has been the clamor from students all across the country, that many non-teaching hospitals are now reported to be feeding their internes!

There have been many articles written in this Journal about "Pay for Internes," "Better Teaching for Internes," and many other bigger and better things for internes. You may try and get all sorts of delightful things for them, but isn't it high time we got down to fundamentals? Let's just try and get the internes the thing that occupies their undivided attention—FOOD.

Because of the current interest in this question, I have conducted a poll. I have approached the superintendents of two large teaching hospitals situated in a mid-western city. We shall call these men **Superintendent A**, and **Superintendent B**. In order to balance their views, I have solicited the opinion of a third doctor, who, because he has never been connected in any way with a hospital, has become something of an authority. We shall call him **The Third Man** . . .

Superintendent A Says . . .

"It is a cardinal principle in our hospital that internes should not be fed. While it is true that many non-teaching hospitals are now feeding their internes, these hospitals have always been unable to obtain enough internes for their needs and have resorted to this out of desperation. On the other hand the large teaching hospitals in Canada, the U.S., and Great Britain, continue to have more applications than they can handle; these hospitals offer a medical education—**food is no substitute for this.**

Superintendent B Says . . .

"WE CANNOT FEED OUR INTERNES! ! ! "

There are two reasons why we must adopt this policy:

(1) The expense would be far too great. We have had many financial setbacks in past years and this spring we had a disastrous flood. We are putting all our extra cash into buying gravel to build a dike. The internes are welcome to eat as much gravel as they like, but food is out of the question at this time.

(2) Many internes, if they were offered food, would eat until they were satisfied. If they kept this up over a period of a few weeks they would begin to look well fed and prosperous—so much so that they might be mistaken for the staff men. How could one tell the difference between the staff men and the internes if both were well fed? Worse still there would be many who would overeat, and might possibly be mistaken for surgeons.

Third Man Says . . .

I do not wish to appear radical, but I am firmly convinced that the internes should get food with their meals. Perhaps a small side-dish of food along with the meal to begin with, and later on if this worked, then the whole meal could consist of food. If this plan is economically unsound (as many hospital authorities would make one believe), then I believe a satisfactory compromise would be at least to stop the present feedings as soon as possible. This unimaginative schedule of I-V NaCl three times a day is producing signs of irresponsibility in otherwise promising young internes. (They are going into sodium imbalance and demanding **sleep** as well as food!) Moderate concessions now could nip this tendency in the bud.

Stop Press

Just as this article was going to press, a usually reliable source reported that the Minister of Health of the province wherein the above teaching centre is situated, intends to bring a bill before the next sitting of the Legislature, in which he proposes:

(1) That the provincial government build a canteen or canteens for the use of medical students. and

(2) That three meals a day be served from this canteen to any medical student who will agree to practice "year-for-meal" in the rural areas.

The general feeling of the profession when this news was heard, was that it was the thin edge of the wedge of Socialized Medicine, and students are being warned against accepting the offer.

Temporary meals may have to be served to internes until the crisis is over.

It has been suggested that students be given their degree after first year so that the hospital would be **forced** to feed them. To this I would reply that we have many specialists and staff men

who are starving, and we would therefore feel perfectly justified in starving our internes—to any degree."

**Dr. H. M. Speechly — An Appreciation**

In the Medical Arts Building club room hangs a cartoon by the late gifted Dr. A. Blondal. It depicts Dr. Speechly as a modern Saint George attacking a huge mosquito. The cartoon calls attention to two of his traits, his interest in natural history and his passion for service. The service might vary, but he never failed to help the community in which he lived. Thus during his stay in Pilot Mound, 1901-16, he was interested in gardens, not only his own but in those which he inspired others to plant. During the first great war he returned to England, although he was then fifty, to serve in a V.A.D. hospital and in the second war he served as assistant medical officer in Winnipeg's municipal hospitals in order to release younger men.

The idea of service was born in him. His father was the first missionary bishop of Travancore and Cochin. Dr. Speechly was born in India, but was educated in Cambridge and Bath. At eighteen he won an entrance scholarship in arts which enabled him to enter the London Hospital Medical school. As a clinical clerk under Dr. Hughlings Jackson he acquired habits of precise observation. Frederick Treves, who had not then been knighted by his grateful sovereign, instructed him in surgery. Two of his class mates were Lord Dawson of Penn, and Wilfred Grenfell, missionary to the Labrador.

On settling in Winnipeg in 1919 he soon became provincial coroner and held that office for twenty-two years with dignity and impartiality.

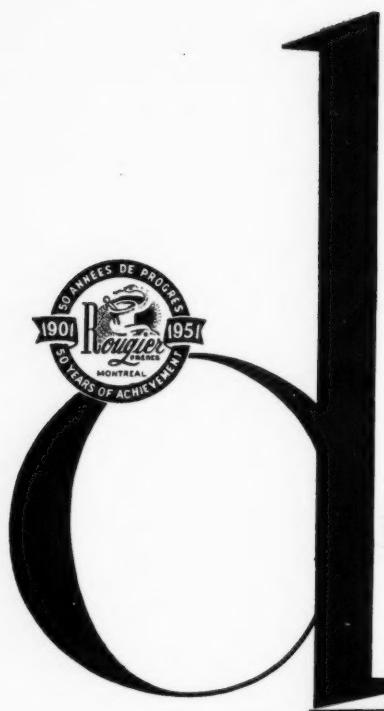
The Anglican Church was dear to him. At his death he was the oldest lay reader in the diocese of Rupertsland and he had served as delegate to many synod meetings. He was president of the Brotherhood of Saint Andrew. When the British Medical Association met at Winnipeg in 1930, Dr. Speechly organized the religious service, a procession and pageant which represented every phase of Canadian life. Dr. Alfred Cox, then secretary of the B.M.A., pronounced it to be the outstanding feature of the meeting, and a most impressive spectacle.

In 1941 the Canadian Medical Association named him a Senior member.

No reference to his life work is complete without mention of his gracious wife who helped him in all his undertakings.

He was a man who took to heart and practised throughout his life the injunction 'if there be any virtue, and if there be any praise, think on these things.'

Ross Mitchell.



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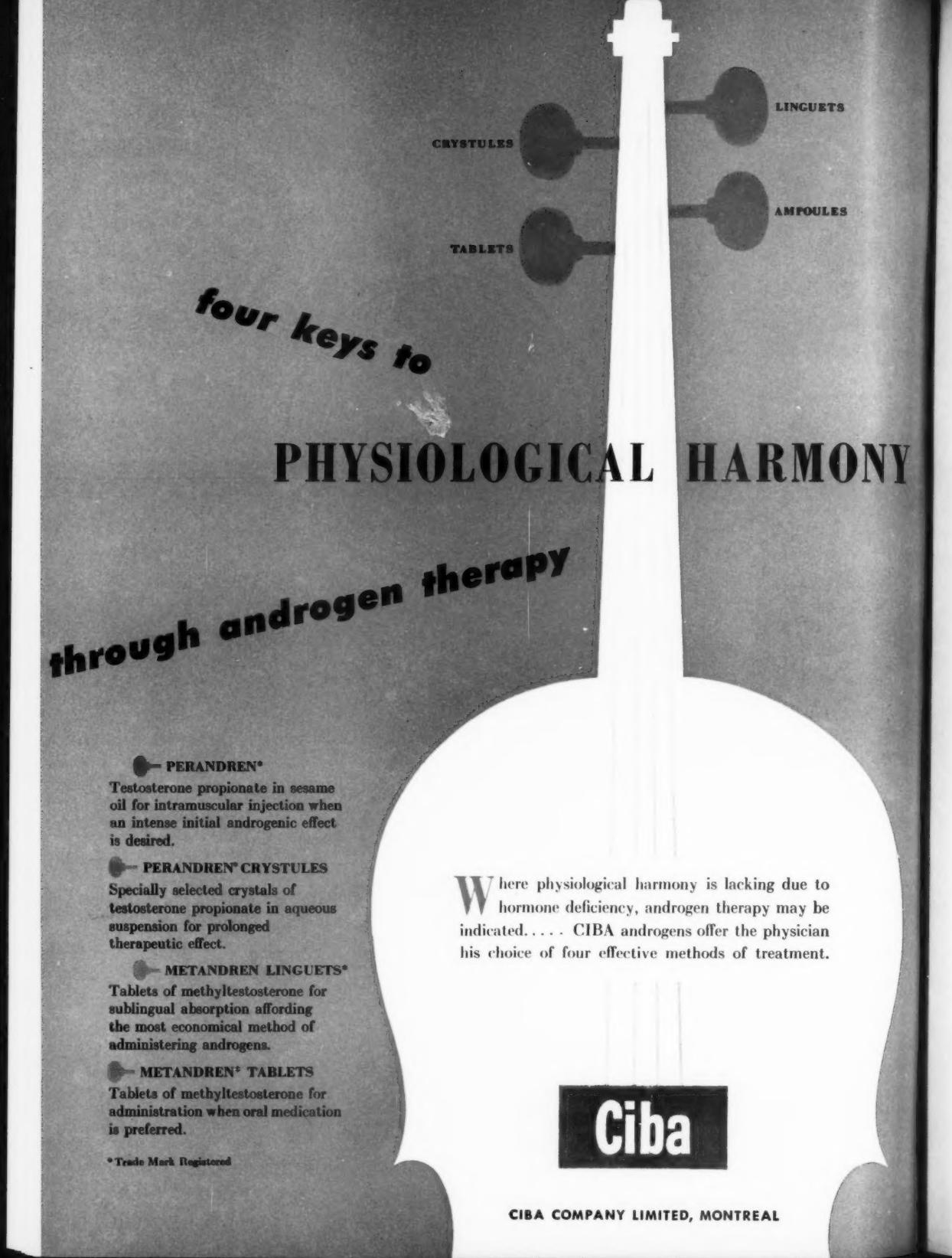
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Editorial

J. C. Hossack, M.D., C.M. (Man.), Editor

The Graduands

This is in large part a Students' Number. In it are papers the diversity of which show the width of student interest. One outlines the structural basis of personality, of temperament and, incidentally, of disease. Another deals with practical aspects of embryology. A third concerns psychical research. A fourth informs us on Life with the Indians. Others deal with further aspects of medical study. All will make interesting and instructive reading for those whose thought of graduation is a reminiscence, not a prospect.

In a few weeks the fruit which has been maturing over seven long years will detach itself from its parent plant, or, to change the simile, our Alma Mater will relieve herself of her seven years' gestation. She may well look with pride on these latest products of her fertility. In a few weeks fifty or so youths and maidens will bow to the Chancellor and receive his "admitto te," the word that makes them one with us. What a sum of knowledge their heads contain despite the leakage which follows examinations! How amazed would be the ancient fathers of our Art could they but see their present day descendants! How simple would be the task of flunking Hippocrates and Galen and Sydenham and a host of others whose names shine bright in our annals! What knew they of X-rays or liver function tests, of chloramycetin or vagotomies? Nothing. But they knew people and unless our young and new associates learn about patients as persons they will find their technical knowledge inadequate. The understanding of mankind begets wisdom; and without wisdom, as without vision, the people perish.

A sort of ambivalence attends graduation. The graduand rejoices in his liberation from academic restrictions but nevertheless regrets that College days are over. The annoyances of examinations (including multiple urinalyses), and the anxieties attendant upon being an interne have at last ended.

For many years I examined candidates for their degree. Sometimes, to make things a bit easier, I would ask a nervous lad to tell me the symptoms of anxiety neurosis—a simple question which required for its proper answering merely a recital of the youth's own immediate feelings.

I naturally attributed the candidate's discomfort to the fact that he was enduring the stress of an examination, but I was only partly right.

The other element which I did not properly appreciate was the fact that the examinee was also an interne. Only this year and through the medium of the Journal published by the students themselves have I become fully aware of the distresses of an interne.

There was first an article headed "Should Internes be Paid?" The authorities who had been asked the question had answered "No." Then came a second article captioned "Should Internes be Fed?" "Poor devils," I said, "Now they are pleading for sustenance so that they continue to perform their (financially) unremunerative tasks." Again the answer was "No." I then expected to come upon a third article entitled "Should Internes be Allowed to Breathe?" As it did not appear I concluded that either the students had hesitated to ask the question, or that, by combining their wishbones and their backbones they had determined to continue to respire despite the wishes of their governors.

Regarding the second question "Should Internes be Fed?" I am moved to say that, at meal times, they give such an excellent imitation of the act of eating (full plates rapidly becoming empty) that one would swear they had been eating, a fact which they may later discover with the same amazement that overcame Monsieur Jourdain when he learned that he had been speaking prose all his life.

Most of us already know some or all of the names of the graduands with whom we shall soon find ourselves in collaboration rather than competition. Medicine is a fellowship, a brotherhood, a calling. One of Johnson's definitions of vocation or calling was "a summons from heaven." Commenting upon this, Stephen Paget, (with whose *Confessio Medici* every doctor should be familiar) wrote, "Surely a diploma, obtained by hard examinations and hard cash, and signed by earthly examiners can not be a summons from heaven. But it may be. For if a doctor's life may not be a divine vocation, then no life is a vocation and nothing is divine."

And now I take it upon myself, to utter in the name of all who read these words, my own "admitto te" to the members of the graduating class. We are glad to have them with us. We need their help and they can be sure of ours. May each of them find that place which he or she alone can fill, and in which alone he or she can be satisfied. No one needs more, and so we wish them well.

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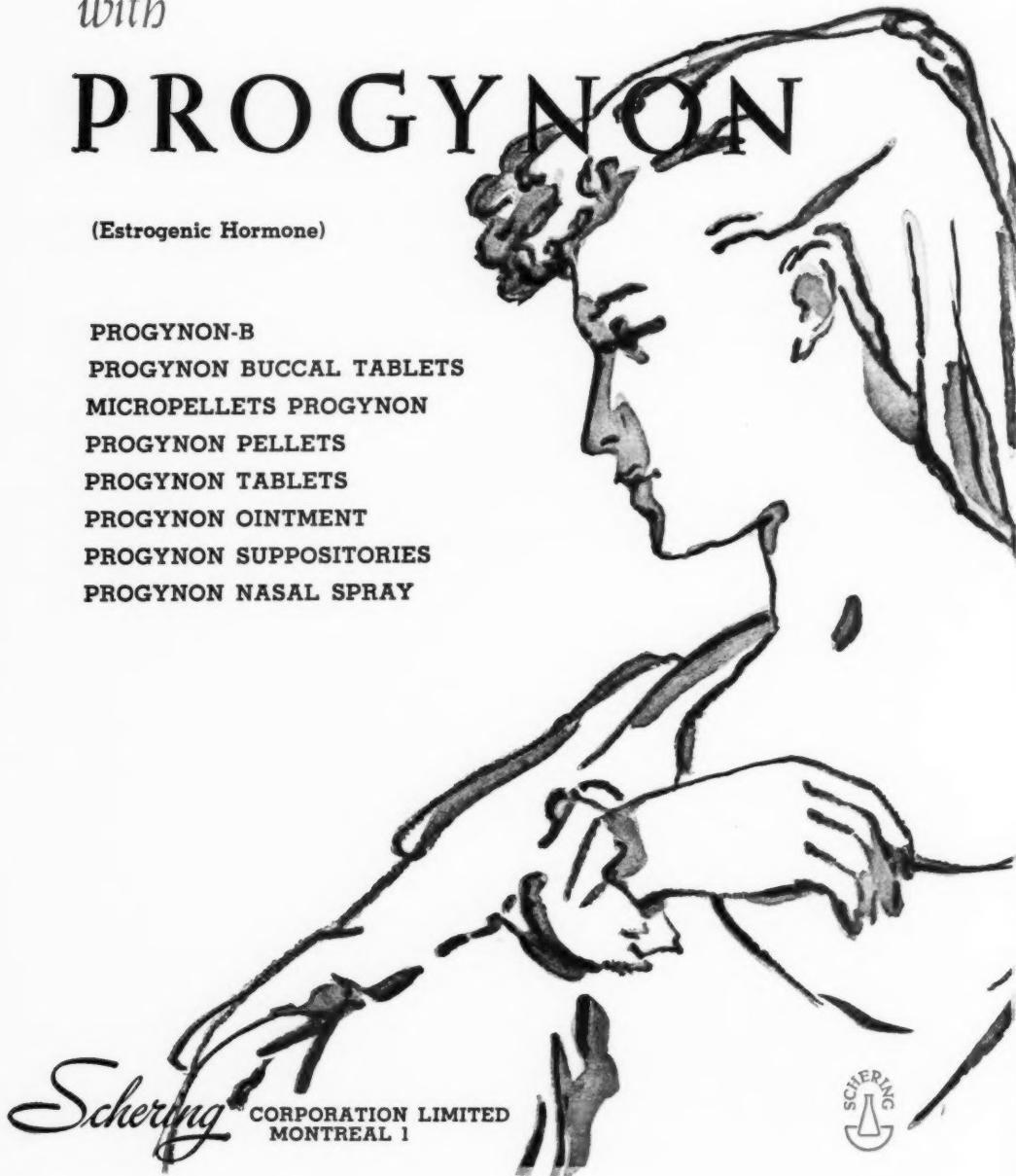
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Fee-For-Service

The anaesthetists of St. Boniface Hospital are planning to work on a Fee-for-Service basis. The new arrangement will not become operative for two or perhaps three months but after that time they will no longer be servants of the hospital. As a result all patients who require surgical care will then be responsible for their anaesthetic fees. Hospitalization benefits will no longer include these.

By some this may be regarded as a backward step. The idea and ideal of prepaid medical care is being strongly supported and widely extended because, for the unprotected, the burden of illness is becoming even greater. The costs of housing, of food and of clothing keep many purses lean and some, indeed, empty. At present those who are subscribers to the Hospital Service Association are rid of hospital bills, and those who subscribe to the Manitoba Medical Service are free from doctor's bills. And now patients must soon assume the cost of anaesthesia—not a large amount considering how much they are saved but an extra account nevertheless.

The anaesthetists, however, are perfectly justified in this action. For years men and women well trained in anaesthesiology have been migrating east, west and south simply because in other places they found better conditions of employment and much greater remuneration for their services. It takes a lot of patriotism to make a man stay here as a servant when in another city he can earn three or four times as much in a year and, at the same time, be practically his own master.

In anaesthetist circles Winnipeg is highly regarded as a training centre, but very poorly regarded as a place for employment. The shortage of competent anaesthetists is a continuing source of alarm. Some way had to be found to induce young graduates to take up anaesthesiology as a profession, and to attract outside anaesthetists to fill existing gaps. And the only satisfactory way seemed to be the switching from the hospital-servant arrangement to a Fee-for-Service plan. By assuring anaesthesiologists of some hand in the conduct of their own affairs and by making it possible for them to enjoy the fruits of their own labours, the chief difficulties of the past could be overcome to the advantage not alone of the anaesthetists but also to that of surgeons and patients.

The St. Boniface surgeons support the anaesthetists in the change. They realise how much the success of modern surgery depends upon the almost anonymous persons who sit at the patient's head. They want to be assured of competent assistance and see in this plan a way to assure it.

The marvels of modern surgery (and so they may well be called) have been due no less to the inventiveness and skill of anaesthetists than to the daring of surgeons. The accomplishments of the latter could never have been achieved but for the devising and application of new methods of anaesthesia. The earliest surgeons were limited to the lopping off of limbs and to the sewing up of wounds. Only when it became possible to cast the patient into a deep and safe sleep, only then did it become safe to attack disease in the abdomen. Now there is no region of the body which the surgeon has left unexplored. The thoracic wall is no longer a barrier. The skull is broached daily. Millions now living would have died had it not been for the success that followed procedures made possible by anaesthesia.

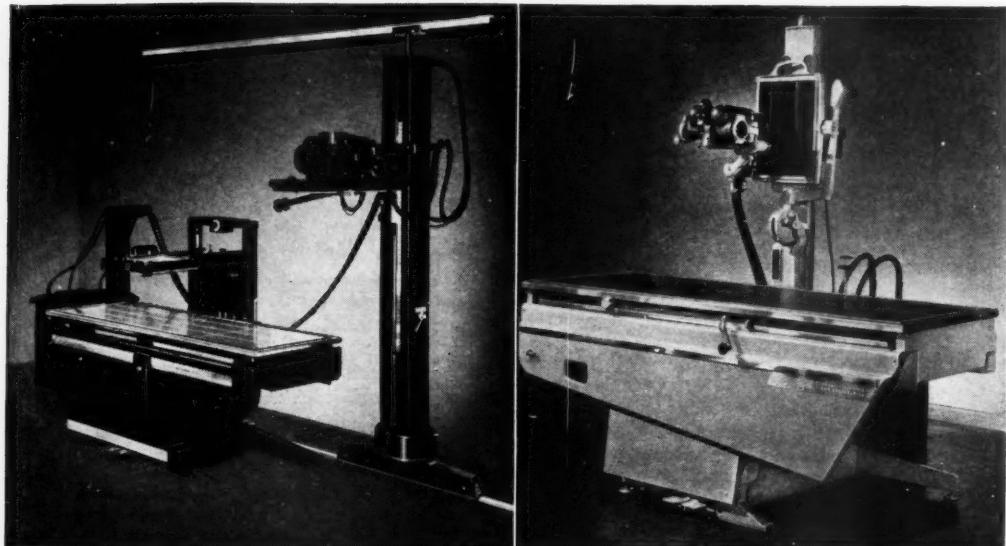
There was a time when the memory of most of us when anaesthetic agents were few, and the technique of their use easy to master. Then "pouring ether" was a part-time job for those whose mornings were free. Now it is an all-time job for specialists. Moreover the duties of the anaesthetist include much more than the giving of a drug during an operation. The patient must be seen, examined and prepared long before his or her appearance in the operating room. Decision must be made as to the anaesthetics to be used, the quantities to be given, the times of administration and the techniques employed. There is the careful watch over the patient while the surgeon is at work and constant alertness to the needs of the moment. There is the post-operative observation and care. The time spent with the surgeon is but a fraction of the time spent with the patient. But by increasing their hours of duty and widening their scope anaesthetists have made surgery safer than at any time since the dawn of history.

Men and women who by long training and experience have fitted themselves to assume what is now a great responsibility deserve commensurate recompense. They are highly skilled specialists—they must be—and it is only logical that they should wish to enjoy the privileges possessed or sought by other specialists. Almost everywhere Fee-for-Service is becoming the preferred alternative in negotiations.

We are informed that because the ranks of competent anaesthetists have become so depleted locally, it will not be possible immediately to give ideal service. But there is reason to believe that the new plan will induce qualified people to remain, to return, or to come, so that present gaps may be filled, and enlargement of the group made possible. Then each surgeon, whatever may be his field, will be assured of having an assistant especially familiar with his anaesthetic needs and competent to satisfy them.

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Winnipeg Medical Society

Report of Meeting 29 March

The March meeting of the Society was held in conjunction with the University of Manitoba post-graduate refresher course on 29 March in the Broadway Buildings to accommodate the very large attendance of visiting and local doctors present to hear the two distinguished guest speakers, Dr. Ray Farquharson, Professor of Medicine, University of Toronto, and Dr. W. C. MacKenzie, Professor of Surgery, University of Alberta.

The meeting was called to order by the President, Dr. K. R. Trueman, who requested all present to stand in respect to the memory of three members who had passed away since the last meeting: Dr. A. Leishman, Dr. H. M. Speechly (who was a life member of the Society), and Dr. W. L. Wiseman.

Dr. MacKenzie chose as his subject "Intestinal Obstruction." His paper will appear in the Review in the next issue. He was introduced by Dr. C. W. Burns.

Dr. Farquharson, who spoke from notes and with the use of lantern slides, discussed in detail his subject "Medical Diseases of Bone." In his introduction, Dean Lennox Bell paid tribute to Dr. Farquharson's outstanding contribution to the country in the Air Force and with the National Research Council.

A brief summary of his address follows:

Dr. Farquharson pointed out several salient points regarding disease of bone. 1. Wasting of bone is a slow process and symptoms of weakness do not occur until half the calcium normally deposited in bone has been removed. This amounts to a loss of 500 grams of calcium.

2. When there is wasting of bone there is increased osteoblastic activity. This may be greater in certain diseases (such as rickets and steatorrhea) than the osteoclastic activity but wasting will progress due to an insufficient supply of serum calcium and phosphorus. The measurement of serum alkaline phosphatase is important in this regard. It is higher with greater osteoblastic activity.

3. It is important to measure the serum protein if one is to measure serum calcium because calcium is protein bound and interpretation of the result depends on the serum protein reading.

He then discussed various diseases which affect bone. In the first group of dietary conditions he placed rickets, osteomalacia, steatorrhea, and the rare Milkman's syndrome.

In the second group he placed those diseases due to prolonged immobility. Senile osteoporosis

and post menopausal osteoporosis, in which there is a lack of hormonal stimulation, are aggravated by immobility. In addition, there is simple osteoporosis from disuse. He cited an example of the latter with a case of a man with Marie Strumpel arthritis who took professional advice too seriously and went to bed for nineteen years, during which time his legs were almost completely immobile and became extremely osteoporotic, whereas his arms remained in A-1 condition because he had trained himself in handicraft work.

In the third group he discussed hyperparathyroid tumors in which there is a high serum calcium and low serum phosphorus with high serum phosphatase. He reminded his audience of the extreme difficulty in finding such tumors at surgery. Pagets disease and multiple myeloma were also discussed.

Highlights of Welfare Council of Greater Winnipeg

Jessie A. McGeachy, M.D.

As representative from the Winnipeg Medical Society, I have attended several meetings of the Welfare Council of Greater Winnipeg. The former name of this organization was the Council of Social Agencies of Greater Winnipeg. Although familiar with the existence of various community agencies in Winnipeg, as we all are, my attendance at these meetings has acquainted me with more intimate and interesting facts and figures, the knowledge of which might be useful to our profession in general. For this reason, I am outlining the following summary, for your general interest. We shall begin with the older organizations which are familiar to all of us.

The Red Cross Society in Manitoba fosters various projects. The newest one is the blood bank service. The donors are volunteers. The transfusions are free. The equipment, technical and personnel staff are national in organization which makes it possible for the Red Cross Society to move teams of workers from place to place across Canada, to meet emergency needs, as for example, during the Manitoba flood in 1950. In Manitoba and western Ontario hospitals, to the lakehead, for the year from January 1, 1950, 10,000 bottles of blood were supplied to hospitals. In addition to the transfusion service, in Manitoba the Red Cross nursing services staff and run two outpost hospitals. One at Fisher Branch contains ten beds, and another at Arborg contains eight beds. In addition, there is a nursing station at Alaunsa. The Red Cross Society conduct free classes in home nursing and first aid. They publish a Red Cross Home Nursing Manual which is sold to the classes at a nominal price. The Junior

Red Cross, organized among school children, undertakes special projects. One has been providing an iron lung for the Winnipeg Children's Hospital. Another is to raise funds for a convalescent wing in the new Winnipeg Children's Hospital. There is a Women's Work division for sewing and making dressings. Other groups operate the Deer Lodge canteen, with recreation facilities and accommodation for relatives of patients. Crafts are taught in D.V.A. hospitals by Red Cross workers. One of the special services, which was unknown to me, is the existence of a Sick Room Loan Supply Cupboard. Here a doctor may order for a patient at home various sick room supplies, from small to large, the largest being Gatz beds. These may be loaned free of charge for a period up to six months, which may be extended, if need is shown to exist beyond that length of time. Finally, another community service supplied by the Red Cross is educational radio talks on Swimming and Water Safety.

The St. John's Ambulance Association is probably the oldest of the existing community service organizations. They conduct free classes in Home Nursing and First Aid, and sell manuals in both these subjects. At public gatherings, games, picnics, etc., they have officers in attendance to administer first aid if it should be necessary. Their aim is to have enough civilians trained in first aid to form a nucleus for civilian defence in the case of national emergency.

As both the Red Cross Society and the St. John's Ambulance Association teach courses in Home Nursing and First Aid, and both compile manuals, it has been considered wise to eliminate some of this duplication of service. This question of policy is being considered at the headquarters staff of the respective organizations, and no doubt when a final decision is arrived at, it will be published.

One of the most interesting organizations, from the point of view of history and activities is the Canadian National Institute for the Blind. This was organized in 1919 to take care of 200 blinded Canadian soldiers. It is a national organization with six divisions—1. Western (British Columbia and Alberta); 2. Central Western (Saskatchewan and Manitoba); 3. Ontario; 4. Quebec; 5. The Maritime Provinces, and 6. Newfoundland. Finances come from two sources, 50% from provincial grants and 50% from public subscription. In Manitoba there are 1,000 blind people, 500 of whom are in Winnipeg. The chief aim of the organization is to provide employment for blind people. In general, it is estimated that only 10% of the total blind population is employable, and as in Manitoba, 115 of the 1,000 blind population are employed, this appears to be a good record. The low employability potential is the result of the fact that blindness is frequently accompanied by

other physical disabilities, such as neurological lesions, or advancing age, which reduce the individual's capabilities. Other aims of the organization are to prevent blindness at all ages, to ameliorate blindness if possible when it is present, and to rehabilitate blind people. In Manitoba, glasses are provided by the organization to school children whose parents are unable to buy them. Employment is provided by the canteens with which everyone is familiar, operated in public places. In addition, blind workers are placed in competitive jobs in factories all across Canada. In 1950 the total intake all across Canada, from factory workers was well over one million dollars. It has been estimated that the minimum standard of service supplied to each blind person is sixty dollars per year per person. Besides the employment service, in Manitoba there is a residence accommodating 37 blind people. All blind children are sent to the School for the Blind in Belleville, Ontario. There is a visiting social service group, comprising one hundred women volunteers. Here is a tip for us to pass on to some of our patients who have too much leisure. Handicrafts are taught in classes. Many useful and marketable articles are manufactured by the blind. In Winnipeg, on Portage Avenue West, we have often seen the salesroom of the local factory, where cotton dresses and other articles are sold. Here one can have patient's gowns or lab. coats made well and at a reasonable price. One of the most interesting developments is the library for the blind. We are all familiar with Braille books, but the newest gadget is what is called the "talking book." This is a recording of all types of books, from fiction to the Bible. Readers with good voices are chosen to make the records, which are circulated from the libraries to blind people, and serve for educational and recreational purposes, and bring the blind citizens into the world of affairs and current events.

A new committee under the Welfare Council has been established this year. It is the Rehabilitation Committee, which is concerned with rehabilitation of disabled persons. This is a sub-committee of the Health Division of the Council. This committee is still in the organization stage. The question of rehabilitation has emerged from the rehabilitation of veterans, and recognition that there is a similar problem among civilians. There has been a recent Federal-Provincial conference to investigate and sponsor the establishment of Rehabilitation Committees across Canada. As the work of the Winnipeg committee progresses, there will be further activities to report.

This report does not include a survey of all the work of the Welfare Council, but it was considered that these highlights would be valuable and interesting for the medical profession to be acquainted with.

*in intractable peptic ulcer
when other therapy fails*

KUTROL[®]

peptic ulcer inhibitor

Controlled studies with intractable peptic ulcer patients show these advantages:

beneficial response in up to 70 to 80 per cent of patients

Noteworthy results in patients with ulcer of long duration and where conventional methods have failed.¹

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Rapid relief of symptoms and disappearance of ulcer crater. The beneficial action of KUTROL is believed to be due to fibroblastic proliferation, new formation of blood vessels and epithelialization of the mucosa.

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Normal three-meals-a-day schedule as soon as the condition of the patient warrants. Unlike older methods of treatment KUTROL therapy does not require a continuous restricted dietary regimen for an indefinite period of time.

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No toxicity, intolerance or idiosyncrasy noted.

KUTROL (uroenterone, Parke-Davis), also known as uroanthelone, contains a non-estrogenic factor or factors which alleviates the symptoms and stimulates healing of crateriform peptic ulcers.^{2,3} The usual dosage is two KUTROL Kapsseals® four times daily, one-half hour before mealtimes and at bedtime. KUTROL is not intended for use in cases of surgical complications, including pyloric obstruction, penetrating or perforating ulcer, or in those cases of gastric or other ulcer in which a possibility of malignancy exists.

KUTROL Kapsseals, 75 mg., are supplied in bottles of 100.

References:

1. Page, R. C., and Heffner, R. R.: Oral Treatment of Chronic Duodenal and Jejunal Ulcers with an Extract of Pregnant Mares' Urine, Gastroenterology 11:842, 1948.
2. Sandweiss, D. J.: The Present-Day Treatment of Duodenal Ulcer, Pennsylvania M. J. 52:1543, 1949.
3. Sandweiss, D. J.; Saltzstein, H. C.; Scheinberg, S. R., and Parks, A.: Hormone Studies in Peptic Ulcer, J.A.M.A. 144:1436, 1950.

Descriptive Literature Available On Request

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*How early did
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Doctor?*

Think back—was it seven months—nine? Perhaps it was even later if your youngster was born before specially prepared meats for babies were available.

Contrast this with the age at which you are presently starting your baby patients on meat. Chances are it's *three or four months**. (Or maybe you're one of the doctors who specify two weeks.)

This change has taken place in less than five years. It all started when Swift first made meat as easy and economical to serve as any of baby's specially processed foods. Putting meat high on the list of baby's first solid foods is sound practice. No other type of infant food supplies more of the complete proteins, B vitamins and iron baby needs every day.

And when you recommend Swift's Meats for Babies you recommend a quality-guarded product, backed by the best known name in meat.

*In a recent survey, 47.4% of mothers who were feeding meat said their doctors recommended it at 4 months or earlier.

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AT SIX WEEKS: Increasing protein intake 25% by the addition of Swift's Meats for Babies to formula promoted hemoglobin and red cell formation: Leverton and Clark, "Meat in the

Diet of Young Infants" J.A.M.A. 134 (August 1947).

WITH ALLERGY CASES: A formula of Swift's Meats for Babies enriched with calcium and phosphorus offers an effective milk substitute for infants allergic to milk proteins: "Nutritive Value of Mineral-Enriched Meat and Milk," McQuarrie and Ziegler, Pediatrics, Vol. 5, No. 2, (February) 1950.



SWIFT

...foremost name in meats

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General Practitioners

General Practitioners' Association of Manitoba
In Affiliation with the Manitoba Medical Association

General Meeting May 22nd

Highlights of San Francisco Scientific Assembly, Motion Pictures, Theatre "A", Medical College, 8.30 p.m.

Quo Vadis?

Recently a group of medical men conceived an idea of bringing together the backbone of the profession to form the General Practitioners' Association of Manitoba. The major problem has been to reach the urban practitioners to convey to them and create their interest in the aims and objects of the Association as these relate to the present day practice of Medicine.

Today the trend of the western world is to what our political friends wish to term a "Welfare State." We are not drawn or encouraged into it, but will be engulfed by it.

Medical man's individuality and preservation will depend entirely on whether he has acquired an impermeable membrane which will resist digestion on being phagocytosed. If he has, then he will of necessity play a major role in such a social structure. Single-handed, he cannot do this for long. Sooner or later he will need guidance or perish.

Descriptive terms such as "rugged individualism" and the like are only metaphorical and meaningless at the present time. The trend is for group expression with the cream of thought to be the guiding policy. The bulk of work falls on a few selected individuals but these must have the support of all.

Our aims and objects have often been misinterpreted even by our own colleagues. Criticism has been levelled against the organization as being selfish and mercenary. It is chiefly a matter of interpretation as to the meaning of selfish interest. Certainly, General Practitioners would not be the forerunners in grouping their interests. It is a normal outcome dictated by necessity.

Several rural practitioners, during the recent refresher course in Winnipeg, have raised the question of lack of participation of the general practitioner in setting up and conducting a course primarily for general practitioners. This is a mat-

ter which might warrant a fuller account, but as it is not directly relevant to the topic under discussion, it should be elaborated on a future occasion.

These same rural practitioners are fully aware of the importance of organized medicine. However, many are so occupied with their daily routine that they cannot see what is happening in the world outside their small perimeter of interest. They seem to consider that they are performing their share of duty to the public and are too busy to devote any time to organized medicine. On the other hand, there are those who, having been away from larger centres for a long period and out of touch with the profession generally, feel indifferent and possibly timid to offer their active participation, unmindful of their own potentialities. It is these men that the profession needs. That they are missing as yet from its ranks is not entirely their fault. They may never have been approached, in which case the blame must be laid on the organization itself. Would not we all profit by delegating representatives, fully conscious of our problems, to visit the district medical societies and even to go so far as to meet the doctors in their own homes and offices, bringing our message to their doorstep?

At the Annual Meeting of the Canadian Medical Association, June, 1948, in Toronto, the profession became aware of a large gap in organized medicine. This was filled by the formation of the General Practitioners' Section of the Canadian Medical Association during its next Annual Meeting in Saskatoon.

In 1953 the Canadian Medical Association will hold its meeting in Winnipeg. The Manitoba Medical Association and the General Practitioners' Association of Manitoba will be hosts to their parent body. Before that date every practitioner should become an integral, active part of the organization and thereby manifest his awareness of the problems confronting the profession. Organized medicine needs us all.

The profession in Manitoba was the first in the Dominion to organize the General Practitioners' Association. Let us be first to have every practitioner not only enrolled but an interested, working member of our organization.

V. F. Bachynski, M.D.,
2nd Vice-President.

April 10, 1951.

G. P.'s Supper Dance, Wednesday, May 30th . . . See Page 332

● ANTACID

ALUMINUM HYDROXIDE GEL
1 fluid ounce in 1 fluid ounce

MAGNESIUM HYDROXIDE
13 grains in 1 fluid ounce

An efficient antacid adsorbent without tendency to constipate.

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HOMATROPINE METHYLBROMIDE
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Relieves spastic pain without producing undesirable side effects.

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BUTYLBARBITURIC ACID
0.666 grain in 1 fluid ounce

The barbiturate of choice for prolonged daytime sedation. May be administered in presence of renal damage and is nontoxic to the liver.

(R. D. Dripps; J.A.M.A., 1949).

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12 fluid ounce
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Average Adult Dose:
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Association Page

Reported by M. T. Macfarland, M.D.

Canadian Medical Association

The Eighty-second Annual Meeting will be held from June 18th to 22nd, 1951, with headquarters in the Mount Royal Hotel. Several members of our provincial division will travel to "la plus grande ville du Canada" to participate in that meeting as well as various specialty group gatherings. The following have been named to represent the Manitoba Division at sessions of the General Council which may be held for three days instead of the usual two:

Doctors Brian D. Best, Elinor F. E. Black, A. M. Goodwin, A. T. Gowron, Eyjolfur Johnson, President; Ruvin Lyons, M. T. Macfarland, J. C. Rennie, R. W. Richardson, C. W. Wiebe.

1951 Graduates in Medicine

As this is being written the deadline date for submitting applications to write the examinations of the Medical Council of Canada conjointly with the final examinations for the medical diploma has expired. When the examinations have been successfully completed the graduates will take their place as members of a time-honoured profession. To each graduate goes the sincere congratulations of the members of the licensing body, the College of Physicians and Surgeons of Manitoba, and the voluntary organization, the Manitoba Medical Association, (Canadian Medical Association, Manitoba Division). The resources of these bodies are available to assist you, and each graduate may do much to further the solidarity and prestige of the professional organizations. Information may be obtained at the office of the Executive Secretary or Registrar, 604 Medical Arts Building.

Manitoba Medical Association

Annual Meeting, 1951, Fort Garry Hotel

October 9, 10, 11 and 12

Committees have been appointed as follows:

Hotel Arrangements—Doctors Eyjolfur Johnson, President; M. T. Macfarland, Executive Secretary.

Scientific Programme—Doctors A. T. Gowron, Chairman; A. B. Houston, A. S. Little, Dauphin; J. W. Macleod, S. A. Boyd, S. S. Peikoff, J. C. Hossack.

Commercial Exhibits—Doctors Roper G. Cadham, Chairman; A. R. Birt, J. G. Whitley, Esq.

Scientific Exhibits—Doctors David Swartz, Chairman; J. E. Newell, W. J. Elliott.

Registration and Reception—Doctors A. M. Goodwin, Chairman; C. W. Wiebe, Winkler; J. A. Findlay, Brandon; J. G. Whitley, Esq.

Resolutions Committee—Doctors G. H. Hamlin, Chairman, Portage la Prairie; K. I. Johnson, Pine Falls; C. S. Crawford, The Pas.

Ladies' Committee—Mrs. Eyjolfur Johnson, Mrs. A. M. Goodwin, Mrs. C. W. Wiebe, Mrs. C. B. Schoemperlen, Mrs. Ruvin Lyons, Mrs. M. T. Macfarland, Mrs. D. L. Scott, Mrs. H. S. Evans.

Entertainment Committee—Doctors Emmet Dwyer, Chairman; F. Hartley Smith, Elinor F. E. Black, Marjorie R. Bennett.

Participation by Members Invited

Members who have suggestions for improvement of the meeting, or those who may have contributions to the Scientific Programme, Scientific Exhibits, or Entertainment, are requested to notify the Association office without delay.

How the Association Officers Are Selected

"The President, First and Second Vice-Presidents, Honorary Secretary and Honorary Treasurer, and (two members-at-large) shall be elected at the business session of each Annual Meeting."

"They shall be elected from nominations, one or more names for each office, to be submitted by the Nominating Committee to the Executive Committee and published in the Association Bulletin at least one month before the Annual Meeting, and from such other nominations as may be made from the floor at the business session of the Annual Meeting."

"The Nominating Committee shall consist of the President of the Manitoba Medical Association as Chairman, the two immediate Past Presidents, and one member from each District Society, whose name shall be forwarded to the President on notification of the date of meeting of the Committee." A request for names has already gone out!

Workmen's Compensation Board

The following letter was addressed on April 9th, 1951, to each member of the profession:

"In 1948 a Committee of this Association, the Workmen's Compensation Board Negotiating Committee, obtained revision of the Fee Schedule and some conditions of service.

At the 1950 Annual Meeting of the Association the relations between the profession and the Board were the subject of prolonged debate.

Following that meeting the personnel of the Workmen's Compensation Board Negotiating Committee was arranged to include members of the Association Fee Committee, set up in 1949 to consider all requests for revision of fees.

The Committee is now actively engaged in reviewing the Workmen's Compensation Board Fee Schedule, and representations are invited from each member or group of the Association.



Isoprenaline Sulphate



For the Treatment of Bronchial Asthma

Isoprenaline (Isopropyl - nor - Adrenaline), a homologue of Epinephrine, is administered sublingually in tablet form or by oral inhalation as a spray solution.

Advantages

1. Relief without the inconvenience of repeated injections.
2. When administered sublingually its bronchial relaxing effect is apparent within five to ten minutes.
3. It may be recommended for routine use by Chronic Asthmatics, especially those who are sensitive to the Cardiovascular effects of Epinephrine or Ephedrine.

Presentation

Tablets of Isoprenaline Sulphate A & H, each containing 10 mg., are available in bottles of 100 and 1000.

Isoprenaline Sulphate Spray Solution A & H, containing 1%, W/V, is available in bottles of 10 c.c.

Complete literature supplied on request.

M-50

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Proposed changes should be forwarded to the Association office not later than April 21st."

**Executive Committee, Sunday, March 18th
Report of Representative to C.M.A. Executive Committee**

Dr. Richardson gave a complete report of the Executive Committee of the Canadian Medical Association, held in Toronto, March 1st, 2nd and 3rd, and, as a synopsis of these meetings is now being printed in the C.M.A. Journal, it is thought to be unnecessary to include a complete report in the minutes of this Association, with the exception of matters directly affecting this Division.

Pension Retirement Fund: It was reported that a Pension Retirement Fund for C.M.A. employees had been brought forward for approval of Council in June and it was felt that this question should be investigated as to the suitability for the employees of this Division.

Committee on Pharmacy was asked to report on the subject of medical evidence in courts on intoxication.

Back Numbers of C.M.A. Journal: The Managing Editor of the Journal reported that back numbers of the Journal will not now be given; new members will get the Journal from time of their acceptance as new members. Divisions were asked to inform C.M.A. as soon as possible when member has discontinued his membership so that the Journal will be stopped.

Registration Fee at Annual Meetings: The question of charging a registration fee at the Annual Meetings has been referred to Council.

Standardization of Hospitals: The American College of Surgeons will continue in the standardization and approval of hospitals in Canada, but it was felt that this might not be continued indefinitely and the C.M.A. will have to consider having this work done by some other organization.

Reports to General Council Annual Meetings: It was agreed that all reports would not have to be read word for word. Members going to Council will be asked to study these reports and be prepared to pass those that are not contentious without discussions, or be prepared to deal with any clauses they wish to discuss. It is hoped this will save considerable time at Council meetings.

Defence Medical and Dental Services Advisory Board: It was reported that this Board on which the C.M.A. has three members, has been active in planning for the utilization of medical manpower in time of war and when plans of the Federal Committee are further advanced the Divisions will likely be asked to form committees to work with this Board.

Report of Committee on General Practice: The C.M.A. Executive agreed on the following resolutions presented by this Section:

1. Programme of training for internes re gen-

eral practice in smaller hospitals for a period of their internship, i.e., outside University hospitals.

2. That a Department of General Practice be set up in all hospitals, not a separate department, but the general practitioner would be taken into each department, depending upon his qualifications and he would be graded for work in the department.

3. To assist the General Practitioner Section in finding ways and means to set up some system of recognizing special merit for G.P.'s (certification or certificate of merit, etc.).

4. To study revision of the C.M.A. By-laws re Sections so that the G.P. Section By-laws would fit in.

Report of the Committee re Central Home for the C.M.A. was again discussed and it was agreed to leave this matter over until a more opportune time.

The C.M.A. Journal may now be sold at not less than \$10.00 to any doctor, regardless of whether he is a member of the C.M.A. or not.

Representation of Specialist Groups on General Council: Some Sections of Specialists Groups and affiliated societies are asking for representation on General Council. The Executive advised against this for the following reasons:

1. They can always express their opinions through Divisional representatives or by direct resolution.

2. It would upset the voting power of the Divisions as all chairmen of sections might come from one part of the country.

3. Under Chapter 3, Section 4, C.M.A. By-laws, any representative of an affiliated society may sit in at Council meetings without voting power.

D.V.A.—D.12 Patients: The Executive took no further action in this matter. It was reported that from the commencement of the scheme until October 25th, 1950, only 604 patients had been accepted across Canada. There were approximately 85 in hospitals across Canada at the time of the Executive Meeting and it was felt that very little could be done with the Government to alter this scheme in any way.

Radiologists — Committee of Fifteen

Reference was made to minutes of meeting of Officers of the Association on March 8th, in which is incorporated report of Legislative Committee of Fifteen, and action suggested by Officers re Bill "An Act Respecting Radiologists" presented to Legislature.

On March 8th a letter was addressed to Secretary, Radiologist Section, M.M.A., advising of resolution of Committee of Fifteen and its approval by the Officers of the Association.

Letters, dated March 9th and 10th respectively, addressed to M.M.A. by College of Physicians and Surgeons, advise the following resolutions approved by the Executive Committee:

Optalidon
checkmates
Pain

OPTALIDON

Optalidon is an effective analgesic and day-time sedative. It relieves pain without causing stupefaction, dispels irritability and creates a state of well-being and relaxation.

Average dose 2 tablets. Maximum daily dosage 6 tablets.

Stocked by your pharmacist, or apply to:



Sandoz Pharmaceuticals Ltd.

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1. "It is the opinion of this Executive Committee that to proceed with the bill to incorporate the Manitoba Radiological Association is inexpedient at this time."

Copy of this resolution was sent to Chairman, Committee of Fifteen, and Secretary of Radiological Section, M.M.A.

2. "That this Executive does not agree with taking part in active opposition to the Bill in the Legislature."

Copy to Chairman, Committee of Fifteen.

A letter, dated March 17th, from the Secretary, Radiological Section, was read.

Resolution: THAT report of the Committee of Fifteen, as incorporated in the minutes of meeting of Officers, be acknowledged with thanks and, in view of the fact that the Bill of the Radiologists has been withdrawn, no action by Executive on this report is necessary at this time;

THAT a committee of the Executive and Radiologists be instructed to confer in this matter and bring in a report to this Executive before the Annual Meeting of the Association.

Manitoba Branch, Canadian Society of Laboratory Technologists

A grant was made to assist the Canadian Society of Laboratory Technologists.

Economics—Coroners' Fees: A letter has been addressed to all Coroners in Manitoba asking if they were satisfied with the present fee schedule and if they had any suggestions to make. Several replies have already been received.

Proposed Enlargement of Health Units: Dr. Richardson advised he had submitted letter addressed to General Practitioners' Association, to Advisory Health Commission re complaints that Health Units were taking work away from practitioners. He said it is now proposed to enlarge areas a great deal, put nurses in, less doctors required to do the work; will hire local doctor to do immunizing, etc.

A letter, dated February 21st, from Department of Health and Public Welfare, which states that this type of work has, in the past, been carried out in some Units to a limited extent, and for this service the practitioners in the area have agreed to remuneration on the basis of \$5.00 per hour, for all time spent in the work (time allowance being calculated from the time the doctor leaves his office until his return) plus a mileage allowance for automobile when necessary.

The opinion was expressed that fee-for-service would be more acceptable.

It was agreed this matter be left over until next meeting and, in the meantime, Dr. Wiebe should draw up schedule which could be considered as fair and reasonable.

E.E.N.T. Section and International Ladies' Garment Workers' Union: Dr. Richardson reported a reply had been drafted to proposal of Mr. S.

Herbst re contract with E.E.N.T. Section, to which he would obtain approval of Economics' Committee.

Recording Machine: Dr. Richardson demonstrated a Tape Recording Machine, 30 minutes recording, price \$295.00. Machine capable of 60 minutes recording more costly. He advised he would make enquiries into other types of recorders before any purchase is considered.

Besides being used to record clinical luncheons, it is suggested that meetings of the Winnipeg Medical Society might also be recorded and that this Society would contribute to the cost of Recording Machine. This was referred to W.M.S. representative.

Membership: Membership Fees Collected as at March 17th, 544, plus 3 Non-Resident Fees. A follow-up letter was sent on March 10th.

C.M.A.—Proposed Diabetic Association: Executive Secretary advised receipt of letter, dated January 25th, from Dr. A. D. Kelly, addressed to Secretaries of Divisions, concerning the need for the establishment in Canada of a medico-lay organization along the lines of the American Diabetic Association, together with questionnaire, "Is there need for a Canadian Diabetic Association?" This letter and questionnaire were passed to Internist Section for opinion and Executive Secretary read reply, dated March 14th, from President of this Section, in part, as follows:

"That it would be inadvisable to form a Manitoba branch of the Canadian Diabetic Association at this time . . . that the objectives proposed could be met by the existing facilities. . . . Should a Canadian Diabetic Association be formed, I am sure the internists of this city would like to discuss their attitude towards it again."

It was agreed that reply of Internists' Section be communicated to Dr. Kelly.

B.C. Medical Association—Annual Meetings in Spring: Executive Secretary read letter, dated February 22nd, from B.C. Medical Association in which they state that their Board of Directors have suggested that steps be initiated to bring about the holding of Annual Meetings in the spring, and asked for expression of opinion from Manitoba Division in regard to this suggestion.

It was agreed that this matter be deferred until next meeting of Executive.

Canadian Arthritis and Rheumatism Society: Executive Secretary read letter, dated February 22nd, from the Manitoba Division of the C.A.R.S., in which they request official endorsement of their Society by the Manitoba Medical Association. He recalled that Dr. F. G. Allison had been named by Executive to Provisional Committee on January 9th, 1949.

Dr. Richardson advised that the C.M.A. has been asked to give approval to 32 organizations—

do not know where they stand; therefore asking government for legislation through the Federal Health Department which will prevent people from organizing without approval. Approval first by Government, then by Canadian Medical Association. All approval should come from C.M.A.

Agreed defer until all such organizations are considered.

Recognition of B.C. Chiropractors Under Workmen's Compensation Act: A letter, dated March 6th, from the Hon. Minister of Health and Public Welfare, drew attention in recent issue of (Public Health) to statements:

"B.C. Chiropractors have won a long struggle for recognition under the Workmen's Compensation Act. Effective January 1st, injured workmen covered by the Act, would be allowed to seek treatment by a Chiropractor of their own choice, without written permission from a Medical Practitioner." Adam Bell, Chairman of the Workmen's Compensation Board, said December 20th that a battle is looming between Chiropractors and Hospital Authorities who declare that the former will not likely to be allowed the use of any hospital facilities in B.C."

"B.C. is believed to be the first Provincial Government to grant Chiropractors full recognition under W.C. Legislation. They are allowed limited recognition in Alberta and Ontario."

"Naturopathic Physicians for the first time in the fifty year history of their profession will be allowed to treat injured workmen under the B.C. Workmen's Compensation Act, because the W.C.B. of B.C. has granted the Association parity with the Medical Doctor on all injured workers' cases.

There are 45 to 50 trained naturopathic physicians in B.C."

C.M.A.—Pharmaceutical Benefits Under New National Health Plan in Australia: Executive Secretary advised receipt of letter, dated March 14th, addressed to Secretaries of Divisions by Dr. A. D. Kelly, enclosing two copies of Document 10, presented to last meeting of C.M.A. Executive Committee, dealing with Pharmaceutical Benefits under the new National Health Plan in Australia, and quoting the following resolution:

"THAT this Report be sent to the Divisions with the recommendation that, if they see fit, a copy be sent to the Provincial Health Departments; and that a copy be sent also to the Department of National Health and Welfare, Ottawa."

Agreed that consideration of this Document and action thereon be left to the Officers of the Manitoba Division.

Sickness Survey: Dr. M. R. Elliott referred to Sickness Survey now underway and advised that proposal has recently been made and presented before Dominion Council of Health re medical diagnosis. 500 families in Manitoba being visited, average once a month, to ascertain if receiving medical attention or not, and cost in connection therewith.

Dr. Elliott stated Department of Health and Public Welfare would like to secure approval and obtain expression of opinion from Manitoba Medical Association as to the best method of contacting physicians. Out of the 450 odd families surveyed, not more than 50 or 60 have a medically diagnosed illness.

It was agreed that written permission should be obtained from patient and letter addressed to doctor.

The G.P.'s Party . . .

The General Practitioners extend a hearty welcome to all members of the profession and their friends to attend.

Cocktails
SUPPER DANCE
Valuable Prizes
Dress Optional



SUPPER DANCE

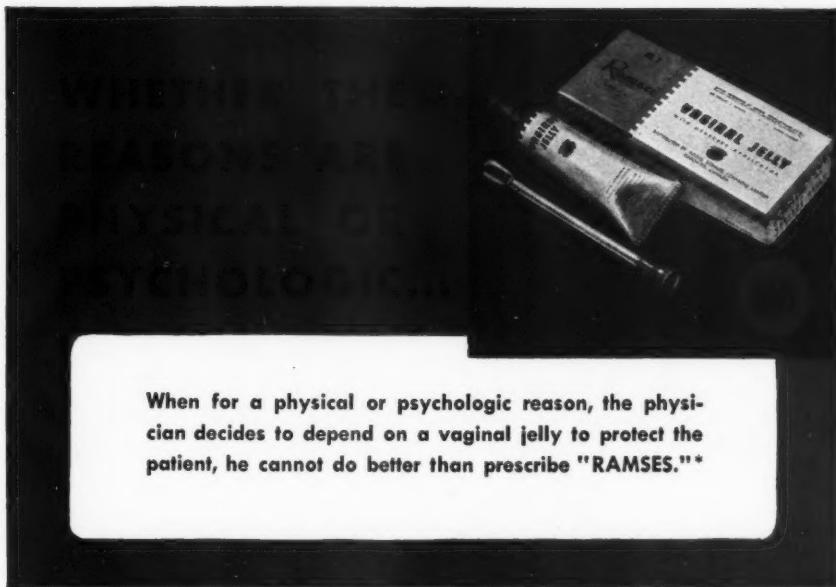
... Cafe ...

Don Carlos

Wed., May 30th

Make your arrangements now. Tickets and other information obtainable from any member of the executive. Norman Corne, Chairman, Social Committee.

. . . Don't Miss It



When for a physical or psychologic reason, the physician decides to depend on a vaginal jelly to protect the patient, he cannot do better than prescribe "RAMSES."*

The cohesive and adherent properties of "RAMSES" Vaginal Jelly[†] are of such high degree that the cervix remains occluded for as long as ten hours. "RAMSES" Vaginal Jelly, with its adjusted melting point, is not excessively lubricating or liquefying. "RAMSES" Vaginal Jelly exceeds the minimum immobilizing requirement of the Council on Pharmacy and Chemistry of the American Medical Association.

Used as directed, the plastic applicator deposits 5 cc. of "RAMSES" Vaginal Jelly over the cervical os.

ALSO AVAILABLE in regular 3-ounce and economy-size 5-ounce refill tubes.



Photo taken after insertion of "RAMSES" Vaginal Jelly. Os occluded.



Photo taken ten hours later. Occlusion still manifest.
Jelly stained with methylene blue for photographic purposes.



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*The word "RAMSES" is a registered trademark. [†]Active Ingredients: Dodecoethylene glycol Monolaurate 5%; Boric Acid 1%; Alcohol 5%.



PROPAJEL is favoured in the treatment of mycotic vulvovaginitis (moniliasis). The advantages of **PROPAJEL** (Propionate Compound Jelly, Wyeth) are summarized in a clinical study comprising 280 cases.

"The jelly is entirely innocuous, convenient to use, and does not stain the patient's clothing. Relief of pruritus and other symptoms in practically every instance is prompt."

J. Am. J. Obst. & Gynec. 54:738
(Nov.) 1947.

PROPAJEL is
Effective . . .
Safe . . .
Esthetically agreeable.

Supplied: Tubes containing 95 Gm., with or without applicator.

PROPAJEL **PROPIONATE** **COMPOUND**



Social News

Reported by K. Borthwick-Leslie, M.D.

Bob Cooke makes the headlines again, this time we congratulate him on his award in Cancer Research under the McEachern Memorial Fellowship. I understand he will use his Fellowship for advanced training in Cancer Surgery and will return to Winnipeg to practice and teach at the University of Manitoba.

A motor cavalcade, consisting of Drs. Mel Brown, Bill Boyd, Glenn Hamilton, Don Hastings and Howard Bowles, complete with wives, attended the annual convention of the American Academy of General Practice in San Francisco, earlier in the month. They reported a grand trip en route and exceptionally fine organization as to Scientific Exhibits, Speakers, and everything in general at the meeting. The boys are all out in praise of the American hospitality, scenery, etc., but unanimously agree they prefer Canada to live in.

Recently returned from the 32nd Annual Session of American College of Physicians in St. Louis are Drs. L. R. Coke, F. A. L. Mathewson, J. A. Kilgour, Jessie McGeachy, J. W. MacLeod, Robt. Beamish, Syd Israels, Paul Tisdale, and C. H. A. Walton. They also report an excellent meeting with a happy mixture of scientific and "Fun" entertainment.

Drs. Beamish and Kilgour were elected Fellows for Manitoba and Saskatchewan. Chuck is going to be busy as he has been invited to lecture on Allergy at the Vancouver Medical Society Annual Summer School, May 28th to June 1, 1951, and also at the Post Graduate Course in Allergy at McGill, June 14-16, under the auspices of the American Academy of Allergy.

Dr. Lawrence R. Coke announces the opening of his office for the practice of Cardiology at 432 Medical Arts. Welcome to our happy home, Doctor, and best wishes for your future success, and welcome also to Dr. J. L. Downey, 630 Medical Arts; Dr. G. H. Levien, Manitoba Clinic; Dr. R. Welpley, 128 Medical Arts; Dr. F. A. B. Shepherd, 417 Medical Arts.

Dr. Ian MacLean is welcome back from a tour of study in England. He looks wonderful, if "Austerity" does as well for all it isn't so bad. As I understand he took Certification in Industrial Medicine. If I'm wrong will requote later. However, it sounds as though he may be useful in the proverbial battle with the Compensation Board. In a brief moment he commented on meeting the Dingles, Blondals, etc., at a cocktail party given by Frank and Mrs. Stuart. All are hungry but happy.

I probably missed numerous "Medical offspring" honors in the Festival, but do congratulate Emma and Gilbert Adamson on the fine showing young Joey gave, winning the highest mark of 172 in her grade piano solo class.

Mrs. Ken Trueman has been elected President of the Junior League of Winnipeg. Ken is very proud, but is wondering how lonesome a mere husband can get with meetings as the counter attraction.

March 31 St. Andrews River Heights United Church was the scene of the wedding of Barbara Jean South to Dr. Robert Alexander Polson. Best man was Dr. John Gemmell, and Drs. J. P. Adamson, J. Hildes and E. J. Thomas were ushers. After the ceremony the young couple were piped from the church by Pipe Major Neil Sutherland and Donald Morrison. Dr. and Mrs. Polson will reside in Winnipeg.

Important—The Party of the Year

An invitation to all General Practitioners to all Consulting Specialists a must!

The Date—May 30, 1951.

The Place—Cafe Don Carlos.

The Time—Supper Dance.

The Dress—Optional.

The Reason—The Manitoba Branch of the General Practitioners Association want to have fun—doubly so because the Flood outfumbled us last year.

Be seeing you all.

CALGLUCOL E.B.S. is an especially prepared brand of calcium gluconate available in tablet, granule and ampoule form for therapeutic use. Vitamin D is added for its value in promoting the absorption and utilization of Calcium.



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CALGLUCOL D GRANULES E.B.S., each ounce contains 330 gr. calcium gluconate and 1,600 I.U. Vitamin D per oz. in 5-oz. bottles.
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| colic intractable pain lead poisoning nocturnal muscular cramps tetany | CALGLUCOL D E.B.S. |



Department of Health and Public Welfare
Comparisons Communicable Diseases — Manitoba (Whites and Indians)

| DISEASES | 1950 | | 1949 | | Total | |
|--------------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|---------------------------|---------------------------|
| | Feb. 25 to Mar. 24, '51 | Jan. 28 to Feb. 24, '51 | Feb. 26 to Mar. 25, '50 | Jan. 29 to Feb. 25, '50 | Jan. 1 to Mar. 24, '51 | Jan. 1 to Mar. 25, '50 |
| Anterior Poliomyelitis | 0 | 0 | 0 | 2 | 0 | 2 |
| Chickenpox | 113 | 145 | 130 | 170 | 434 | 472 |
| Diphtheria | 1 | 2 | 0 | 1 | 4 | 3 |
| Diarrhoea and Enteritis, under 1 yr. | 5 | 14 | 16 | 15 | 21 | 32 |
| Diphtheria Carriers | 0 | 1 | 0 | 0 | 1 | 0 |
| Dysentery—Amoebic | 0 | 0 | 1 | 0 | 0 | 1 |
| Dysentery—Bacillary | 4 | 2 | 7 | 5 | 7 | 12 |
| Erysipelas | 1 | 2 | 7 | 6 | 4 | 16 |
| Encephalitis | 0 | 0 | 0 | 0 | 0 | 0 |
| Influenza | 402 | 85 | 25 | 7 | 491 | 34 |
| Measles | 373 | 521 | 60 | 116 | 1217 | 323 |
| Measles—German | 2 | 13 | 0 | 1 | 18 | 1 |
| Meningococcal Meningitis | 4 | 3 | 2 | 3 | 7 | 7 |
| Mumps | 173 | 194 | 31 | 49 | 515 | 106 |
| Ophthalmia Neonatorum | 0 | 1 | 0 | 0 | 1 | 0 |
| Pneumonia—Lobar | 32 | 24 | 30 | 14 | 73 | 48 |
| Puerperal Fever | 0 | 0 | 2 | 0 | 0 | 2 |
| Scarlet Fever | 101 | 114 | 41 | 65 | 275 | 134 |
| Septic Sore Throat | 1 | 1 | 4 | 4 | 6 | 13 |
| Smallpox | 0 | 0 | 0 | 0 | 0 | 0 |
| Tetanus | 0 | 0 | 0 | 0 | 0 | 0 |
| Trachoma | 0 | 0 | 0 | 0 | 0 | 0 |
| Tuberculosis | 54 | 62 | 85 | 52 | 144 | 175 |
| Typhoid Fever | 0 | 0 | 0 | 0 | 0 | 0 |
| Typhoid Paratyphoid | 0 | 0 | 0 | 0 | 0 | 0 |
| Typhoid Carriers | 0 | 0 | 0 | 1 | 0 | 1 |
| Undulant Fever | 1 | 1 | 3 | 0 | 2 | 3 |
| Whooping Cough | 39 | 42 | 17 | 21 | 104 | 43 |
| Gonorrhoea | 77 | 85 | 94 | 77 | 276 | 268 |
| Syphilis | 8 | 26 | 16 | 19 | 46 | 59 |

For Four-Week Period February 25th to March 24th, 1951

*DEATHS FROM REPORTABLE DISEASES

For the Month of March, 1951

| DISEASES (White Cases Only) | 778,000 Manitoba | 861,000 Saskatchewan | 3,825,000 Ontario | *2,932,000 Minnesota |
|--|---------------------|-------------------------|----------------------|-------------------------|
| *Approximate population. | | | | |
| Anterior Poliomyelitis | | | 1 | 1 |
| Chickenpox | 113 | 124 | 1885 | |
| Diarrhoea and Enteritis, under 1 year | 5 | | | |
| Diphtheria | 1 | 4 | 2 | 2 |
| Diphtheria Carriers | | 1 | | |
| Dysentery—Amoebic | | | | 3 |
| Dysentery—Bacillary | 4 | | 8 | |
| Encephalitis Epidemica | | 1 | 1 | |
| Erysipelas | 1 | 7 | 3 | |
| Influenza | 402 | 1472 | 1593 | 11 |
| Jaundice, Infectious | | | 19 | |
| Measles | 373 | 51 | 3706 | 376 |
| German Measles | 2 | 38 | 772 | |
| Meningitis Meningococcal | 4 | | 17 | 5 |
| Mumps | 173 | 332 | 1343 | |
| Ophthalmia Neonatorum | | | | |
| Pneumonia, Lobar | 32 | | | |
| Puerperal Fever | | | | |
| Scarlet Fever | 101 | 37 | 203 | 152 |
| Septic Sore Throat | 1 | 2 | 3 | 23 |
| Smallpox | | | | |
| Tetanus | | | | |
| Trachoma | | | | |
| Tuberculosis | 54 | 39 | 112 | 189 |
| Typhoid Fever | | | 1 | |
| Typhoid Paratyphoid | | | | |
| Typhoid Carrier | | | | |
| Undulant Fever | 1 | | 1 | 19 |
| Whooping Cough | 39 | 13 | 214 | 53 |
| Gonorrhoea | 77 | | 106 | |
| Syphilis | 8 | | 53 | |

Urban—Cancer, 46; Influenza, 7; Pneumonia Lobar (490, 491, 493), 4; Pneumonia (other forms), 17; Pneumonia of newborn, 1; Tuberculosis, 7; Septicaemia and pyaemia, 1; Neoplasms of lymphatic and haematopoietic tissues, 5; Gastro-enteritis and colitis, 1. Other deaths under 1 year, 19. Other deaths over 1 year, 238. Stillbirths, 14. Total, 271.

Rural—Cancer, 24; Influenza, 10; Pneumonia Lobar (490, 491, 493), 4; Pneumonia (other forms), 16; Tuberculosis, 6; Neoplasms of lymphatic and haematopoietic tissues, 2; Gastro-enteritis and colitis, 3. Other deaths under 1 year, 20. Other deaths over 1 year, 173. Stillbirths, 12. Total, 205.

Indians—Cancer, 1; Influenza, 2; Pneumonia (other forms), 2; Tuberculosis, 1. Other deaths under 1 year, 0. Other deaths over 1 year, 4. Stillbirths, 1. Total, 5.

*As reported to date.

Diphtheria—With four cases reported this year is just four cases too many. Now that spring is here how about IMMUNIZATION clinics? Our aim should be every child protected.

Influenza has continued to be mildly epidemic but in most areas seems to be burned out.

Measles are still hitting the high spots.

Mumps are quite prevalent.

Syphilis still decreasing.

now...

streptomycin

penicillin

**in one
convenient
solution**

**Orasylin
with**

The increased range of the antibacterial spectrum obtained by the combination of Streptomycin with Penicillin gives more rapid and better control of many infections of the eye, ear, nose and throat.

Each mil. contains Crystalline Penicillin G Potassium 5000 Units and Dihydrostreptomycin (sulphate) 5000 micrograms in an Istonic Saline Solution.

**Available in $\frac{1}{2}$ fluid ounce
bottle with dropper.**

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CHARLES R. WILL & COMPANY LIMITED
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ETHICAL PHARMACEUTICALS

Professional Representative: Mr. J. R. Hope, 264 Lindsay Street, Winnipeg, Man.

College of Physicians and Surgeons of Manitoba

4. New Business

A. Purchase of New Register

The Registrar advised that it would be necessary to purchase a new Register and inquired whether the present form was satisfactory or whether a change in form might be desirable. He presented an estimate of \$53.00 for one Register containing 250 certificates, and \$72.00 for two books containing 250 certificates each.

Motion: "THAT two registers be purchased, containing 250 Certificates of Registration each, retaining the present form." Carried.

B. Canadian Hospital Council

A communication addressed by the Matron of a Manitoba hospital seeking advice concerning hospital procedures, together with a copy of reply from the Canadian Hospital Council, were reported. The matter has been referred to the Associated Hospitals of Manitoba, and suggested consent for operation forms supplied by the Registrar.

C. Alberta Licencing

The Registrar read letter, and copy of letter sent to each medical practitioner in Alberta, from the Registrar, C.P. & S., Alberta. He reported that Quebec seems to be the only province that has taken any definite action, and are strongly opposed to the principle of any political or governmental interference with the practise of medicine. No further word has been received.

D. Increase in General Medical Council of Great Britain Fees

The Registrar presented notice from the General Medical Council, advising that on and after October 11, 1950, the amount of the fees payable on first registration under the Medical Acts shall be Eleven Guineas (£11.11s.0d.), whether application for registration is made by virtue of qualifications granted in the British Islands, by virtue of recognized qualifications granted elsewhere in the Commonwealth, or by virtue of recognized qualifications granted in foreign countries.

E. Technicians

The Registrar advised that the question of the medical profession taking over the licensing of technicians had been brought up at the meeting of the Registrars last June, but that no discussion ensued.

Motion: "THAT no action be taken." Carried.

Executive Committee

March 9th, 1951

A meeting of the Executive Committee was convened in the Medical Arts Club Room at 1 p.m. on Friday, March 9th, 1951.

Present: Dr. C. B. Stewart, Chairman; Dr. B. D. Best, Dr. Edward Johnson, Dr. C. H. A. Walton, Dr. I. Pearlman, President, ex-officio, and Dr. M. T. Macfarland, Registrar.

Dr. F. K. Purdie was contacted by phone but was unable to attend. Dr. J. S. Poole was out of the Province.

In the absence of the Chairman, Dr. I. Pearlman was named, on resolution.

The Registrar reported the purpose of the meeting was to receive the report of the Legislative Committee of Fifteen which met on March 7th and contained the following resolution:

"That the Legislative Committee of Fifteen report to the Manitoba Medical Association the opinion that the proposed Bill 'An Act Respecting Radiologists' would tend to divide and weaken rather than to strengthen the medical profession, therefore would not be in the general interest of the profession and would be politically inexpedient."

The meeting was advised of the action taken by the officers of the Manitoba Medical Association on March 8th, which approved the resolution of the Committee of Fifteen, advised that the Radiological Section be notified, suggested that the Committee of Fifteen take action to oppose legislation, and recommended that the Executive Committee of the C.P. & S. be convened to discuss the matter.

Extensive discussion followed.

Motion: "It is the opinion of this Executive Committee that to proceed with the bill to incorporate the Manitoba Radiologists Association is inexpedient at this time." Carried.

It was suggested that copies of this resolution be sent to the Manitoba Medical Association, the Chairman of the Legislative Committee of Fifteen, and a copy for information to the Secretary of the Radiological Section of the M.M.A.

Motion: "THAT this executive does not agree with taking part in active opposition to the bill in the Legislature." Carried.

Adjournment, 2.15 p.m.



Saline Suspension of CORTONE Acetate

(1 cc.=25 mg.) vials, 20 cc.

Cortone



Tablets— CORTONE Acetate

(25 mg. each) bottles, 40 tablets

Clinical studies have demonstrated that the therapeutic activity of Cortone* is similar whether administered parenterally or orally. Dosage requirements are approximately the same, and the two routes of administration may be used interchangeably or additively at any time during treatment.

Although the manufacture of Cortone—probably the most intricate and lengthy synthesis ever undertaken—has imposed unprecedented difficulties, every effort is being made to increase production and, in the meantime, to achieve an equitable national distribution of this vital drug.

Literature on Request

Key to a New Era in Medical Science

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(CORTISONE Acetate Merck)

(11-Dehydro-17-hydroxy-corticosterone-21-acetate)

Among the conditions in which Cortone has produced striking clinical improvement are:

RHEUMATOID ARTHRITIS and Related Rheumatic Diseases

ACUTE RHEUMATIC FEVER

ALLERGIC DISORDERS, including Bronchial Asthma

INFLAMMATORY EYE DISEASES

SKIN DISORDERS, notably Atopic Dermatitis, Psoriasis, Exfoliative Dermatitis, including cases secondary to drug reactions, and Pemphigus

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MONTREAL, TORONTO, VILLE-ÉMILE

Manitoba Medical Service Balance Sheet at 31st December, 1950**Statement I**

| ASSETS | | |
|---|--|---------------|
| CASH AT BANKS | | |
| Current Accounts | | \$ 285,957.98 |
| CASH ON HAND | | 100.00 |
| DOMINION OF CANADA BONDS, | | |
| Par value \$50,000.00, at cost (Fully registered) | | \$50,950.00 |
| Accrued interest thereon | | 650.00 |
| | | 51,600.00 |
| ACCOUNTS RECEIVABLE | | |
| Subscription and other items in process of collection | | 36,535.05 |
| PREPAID EXPENSES | | 1,859.97 |
| FURNITURE, FIXTURES AND OFFICE EQUIPMENT | | 1.00 |
| | | \$376,054.00 |
| LIABILITIES AND RESERVES | | |
| ACCOUNTS PAYABLE | | |
| Accounts of Medical Members | | \$263,519.32 |
| Sundry Accounts Payable | | 6,434.78 |
| | | \$269,954.10 |
| DEPOSITS ON NON-GROUP CONTRACTS | | 700.50 |
| DEFERRED INCOME | | |
| Unearned Subscriber Payments | | 13,657.80 |
| RESERVE FOR CONTINGENCIES | | 50,000.00 |
| RESERVE | | |
| Balance at 31st December, 1949 | | \$39,882.97 |
| Excess of Income over Expenses for year—Statement II | | 1,858.63 |
| | | 41,741.60 |
| | | \$376,054.00 |

Statement II**STATEMENT OF INCOME AND EXPENSES
For the Year Ended 31st December, 1950**

| INCOME | | |
|--|--|----------------|
| Earned Subscriptions | | \$1,034,290.31 |
| Interest on Bonds | | 1,500.00 |
| Sundry | | 2,640.11 |
| | | \$1,038,430.42 |
| EXPENSES | | |
| Accounts of Medical Members covering Subscribers and Dependents | | \$1,311,741.55 |
| LESS Amounts absorbed by Medical Members | | 394,575.63 |
| Operating Expenses | | 917,165.92 |
| Furniture, Fixtures and Office Equipment | | 113,270.39 |
| | | 6,135.48 |
| | | 1,036,571.79 |
| EXCESS OF INCOME OVER EXPENSES, carried to Statement I. | | \$ 1,858.63 |

Approved on Behalf of the Board of Trustees,
Dr. C. K. Bleeks, Chairman.

Auditors' Report

To the Board of Trustees,
Manitoba Medical Service, Winnipeg.

We have audited the books of the Manitoba Medical Service for the year ended 31st December, 1950, and report that we have obtained all the information and explanations we have required and that, in our opinion, the above Balance Sheet and accompanying Statement of Income and Expenses are properly drawn up so as to exhibit a true and correct view of the Service's affairs at 31st December, 1950, and the results of its operations for the year then ended, according to the best of our information and the explanations given, and as shown by the books of the Service. All the transactions of the Service that have come within our notice have been within the objects and powers of the Service, to the best of our information and belief.

Winnipeg,
12th March, 1951.

GEORGE A. TOUCHE & CO.,
Chartered Accountants, Auditors.

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Prescriptions compounded with skill and care.

All prescriptions are given immediate attention
and double checked by competent pharmacists.

Two hour delivery service in the city and Special
Messenger Service in case of emergency at no
extra cost to the patient.

Daily Mail Order service to Rural districts.

Direct your patients to our store or phone in
your prescriptions.

Prices — Reasonable Always

A Complete Drug Store Service . . . Bi-Lingual

COMING EVENTS

The Canadian Society of Laboratory Technologists Convention will be held in Winnipeg, Manitoba, at the Fort Garry Hotel, from June 24th to June 27th inclusive. A fine programme of scientific papers and technical exhibits has been arranged. The entertainment will be varied and interesting. It is hoped that all parts of Canada will be well represented, not only by members of the Society, but all others who are interested in laboratory work. Detailed information can be obtained by writing:

Miss Miriam Wiseman, Municipal Hospitals, Winnipeg, Man.

International College of Physical Medicine—The Congress will be held in London, Eng., from the 14th to the 19th of July, 1952. Applications for the Provisional Programme should be addressed to the Honorary Secretary, International Congress of Physical Medicine (1952), 45 Lincoln's Inn Fields, London, W.C. 2, Eng.

Canadian Medical Association—Annual Meeting to be held on June 18th to 22nd inclusive, at Montreal, Que.

Manitoba Medical Association—Annual Meeting, Fort Garry Hotel, Winnipeg, Man., October 8th, 9th, 10th and 11th, 1951.

Winnipeg Medical Society—Next monthly meeting April 20th at the Medical College.

Anaesthesiology Section—Regular Meetings of the Anaesthesiology Section of the Winnipeg Medical Society are held on the first Tuesday of each month. Visiting Anaesthetists are welcome.



Clinical Luncheons

Time Table for Clinical Luncheons held during the Season in Greater Winnipeg Hospitals. The days in each month on which the luncheons are held are listed herewith. Visiting doctors are welcome.

- 1st Monday—Deer Lodge Hospital.
- 1st Thursday—Winnipeg General Hospital.
- 1st Friday—Children's Hospital.
- 2nd Tuesday—Municipal Hospital.
- 2nd Tuesday—Misericordia Hospital.
- 2nd Thursday—St. Boniface Hospital.
- 2nd Friday—Victoria Hospital
- 3rd Tuesday—Grace Hospital.
- 3rd Thursday—Winnipeg General Hospital.
- 4th Tuesday—St. Joseph's Hospital.
- 4th Thursday—St. Boniface Hospital.

Detailmen's Directory

Representing Review Advertisers in this issue, whose names are not listed under a business address.

| | |
|-------------------------------------|---------|
| Abbott Laboratories | |
| G. J. Bowen | 44 559 |
| R. G. (Bud) Harman | 592 648 |
| D. A. Tedford | 724 863 |
| Allen & Hanburys Co. | |
| H. W. Heaslip | 39 401 |
| E. M. Tackaberry | 404 184 |
| Ayerst, McKenna and Harrison | |
| W. R. Card | 49 829 |
| C. G. Savage | 34 558 |
| British Drug Houses | |
| F. J. Burke | 34 413 |
| Ciba Company Ltd. | |
| J. T. Dewar | 402 540 |
| Fred Ruppel | 422 769 |
| Connaught Laboratories | |
| Brathwaites Ltd. | 922 635 |
| Frost, Chas. E. | |
| W. M. Lougheed | 403 963 |
| W. J. McGurran | 208 231 |
| E. R. Mitchell | 402 132 |
| General Electric X-ray Corp. | |
| W. A. Martin | 924 277 |
| Mead Johnson | |
| George Moore | 404 007 |
| Merck & Co. | |
| W. G. Ball | 45 702 |
| Ortho Pharmaceutical Corp. | |
| J. G. Johnson | 926 642 |
| Park, Davis & Co. | |
| L. W. Curry | 401 138 |
| B. S. Fleury | 404 315 |
| Sandoz Pharmaceuticals Ltd. | |
| H. D. Robins | 39 936 |
| Schering Corp. Ltd. | |
| Halsey Park | 404 346 |
| Schmid, Julius | |
| E. E. Conway | 64 274 |
| Shuttleworth, E. B. | |
| G. D. Roddick | 596 046 |
| Swift Canadian Company | |
| H. A. Plant | 209 833 |
| Will, Chas R. | |
| John R. Hope | 401 883 |
| Winthrop-Stearns | |
| Geo. Edmonds | 49 744 |
| R. M. Kelly | 34 580 |
| Wyeth & Bro., John | |
| A. W. Cumming | 35 271 |
| W. J. Tarbet | 423 495 |